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ABSTRACT

This directory lists institutions, state-by-state, that are conducting student science training programs in 1988. The directory is intended to help interested students find programs which will contribute to their academic development. Student science training programs are designed to provide talented high school students with educational opportunities in science, engineering, and mathematics beyond those normally available in courses or laboratory work in the students' schools. The primary means of accomplishing this is by bringing outstanding students into contact with the instructional staff, research personnel, and general resources of colleges, universities, and research institutions (private, industrial, and governmental). The programs are offered at different times, including summer, through the academic year. Three types of programs are described; (1) Research programs (involve students as junior associates of a research team or as principal investigators on a problem of appropriate difficulty, under the direct supervision of an experienced research scientist; (2) Courses (provide students with academic experiences not available in their schools for some reason--too high level, too few students interested, lack of qualified teachers, budget, etc.); and (3) Research/courses (provide course instruction in combination with offering students the opportunity to do some sort of research). (TW)

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1988 DIRECTORY of STUDENT SCIENCE TRAINING PROGRAMS for High Ability Precollege Students

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1988

DIRECTORY

of

STUDENT SCIENCE TRAINING PROGRAMS

for

High Ability Precollege Students

Science Service, Inc.
1719 N Street, NW
Washington, DC 20036

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science and mathematics teachers

encourage your students to enter the 48th (1988-89)

WESTINGHOUSE SCIENCE TALENT SEARCH

PHYSICS
CHEMISTRY
BIOLOGY
MATHEMATICS
ASTRONOMY
GEOLOGY
HUMAN ENGINEERING
PSYCHOLOGY
ANTHROPOLOGY
METEOROLOGY
ZOOLOGY
SOCIOLOGY
ARCHITECTURE
BIOCHEMISTRY
GEOMETRY
SOCIAL PSYCHOLOGY
ELECTRICAL ENGINEERING
MOLECULAR BIOLOGY
ECOLOGY
PERCEPTION
CALCULUS
ARCHAEOLOGY
CIVIL ENGINEERING
SOCIAL ANTHROPOLOGY
MOLECULAR GENETICS
GEOCHEMISTRY
SOLID STATE PHYSICS
OPTICS
TRANSPORTATION
LIMNOLOGY
EDUCATIONAL PSYCHOLOGY
ABSTRACT ALGEBRA
CELLULAR BIOLOGY
BOTANY
THERMODYNAMICS
AERONAUTICAL ENGINEERING
BACTERIOLOGY
ECONOMICS
OCEANOGRAPHY
ENVIRONMENTAL SCIENCE
PLANT PHYSIOLOGY

- **40 Winners will share $140,000 in Westinghouse Science Scholarships and Awards.**
- **300 Honorable Mentions will be brought to the attention of all colleges, universities and technical schools in the U.S.A.**
- **Hundreds of students automatically will receive recommendations and other assistance toward a college education in schools within states holding State Science Talent Searches.**
- **For all students, a sense of accomplishment and a measure of self-evaluation that comes from finishing a hard assignment.**

ABOUT THE SCIENCE TALENT SEARCH

More than 14,000 students have been members of the Winners and Honors Groups in the past 47 years. Because of their standing in this oldest and most prestigious competition of its kind, they have been offered scholarships from institutions seeking quality students with proven ability in science and engineering. Many winners in the Science Talent Search are offered summer employment in scientific laboratories and other tokens of early acceptance into the world of science and engineering. Such benefits also come frequently to members of the Honors Group and to those who place in State Science Talent Searches.

ANSWERING YOUR QUESTIONS

Who May Compete? Any boy or girl who is in the last year of secondary school (public, private, parochial) who is expected by the certifying school official to complete college entrance qualifications before October 1, 1989 and who has not competed in any previous Science Talent Search is eligible to enter this competition.

How Can Students Compete? Teachers or other school officials must request entry materials for the outstanding science and mathematics students of the school.

What Is A Completed Entry? A project report of about 1,000 words which presents evidence of research ability in science, mathematics or engineering; a Personal Data Blank filled in by student, teachers and principal; standardized test scores and high school transcript.

How Are Entries Judged? Judging is based primarily on the student's report on an independent research project in the physical sciences, behavioral and social sciences, engineering, mathematics, or biological sciences (excluding live vertebrate experimentation).

What Is The Deadline? Entries must be received at Science Service no later than Midnight, December 15, 1988

Get your students to start working on projects NOW

RURAL SOCIOLOGY
PARISITOLOGY
PALEONTOLOGY
MINERALOGY
COMPUTERS
SOIL MECHANICS
POLITICAL SCIENCE
CULTURAL ANTHROPOLOGY
MATHEMATICAL BIOLOGY
ASTROPHYSICS
GENETICS
GEOPHYSICS
NUMBER THEORY
MECHANICAL ENGINEERING
BIOMEDICAL ELECTRONICS
AERODYNAMICS
URBAN SOCIOLOGY
PROTOZOOLOGY
ETHOLOGY
TOPOLOGY
QUANTUM MECHANICS
METALLURGY
INDUSTRIAL PSYCHOLOGY
STATISTICS
MICROBIOLOGY
LOGIC
BIOMETRY
CELLULAR CHEMISTRY
CELL PHYSIOLOGY
BIOPHYSICAL CHEMISTRY
BIOENERGETICS
INVERTEBRATE NEUROPHYSIOLOGY
CHEMICAL ENGINEERING
SYSTEMATIC BIOLOGY
COMPLEX ANALYSIS
PETROLOGY
BIOCHEMICAL ENGINEERING
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PROBABILITY
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send for information from SCIENCE SERVICE
1719 N Street, N.W., Washington, D.C. 20036

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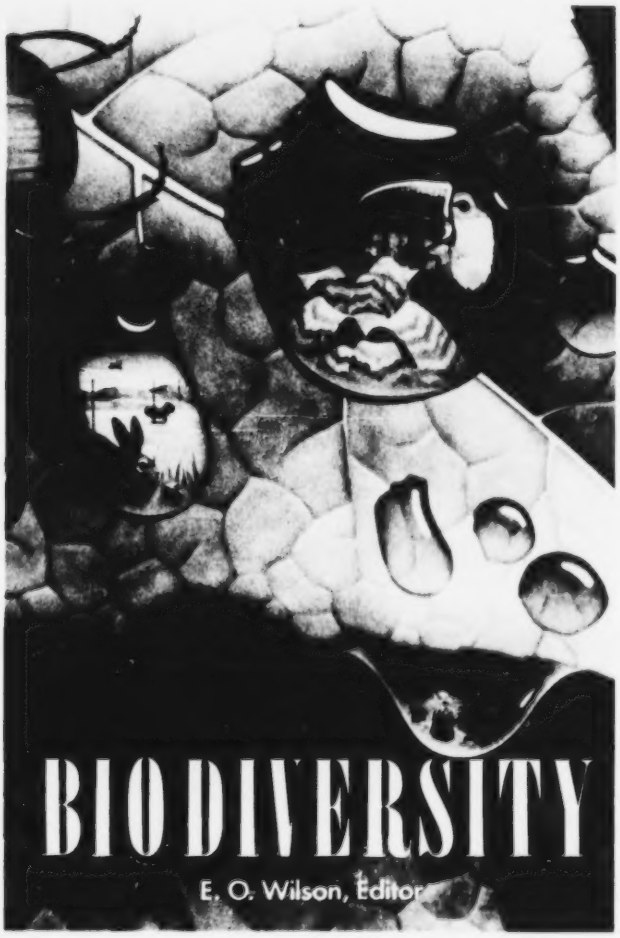
Explore the issues from many perspectives



This beautifully illustrated new volume from the National Academy of Sciences is edited by Harvard biologist E. O. Wilson and calls attention to a most urgent global problem: the loss of countless plant and animal species to the demands of economic development and the pressure of human population growth.

ISBN 0-309-03739-5; 1988, 550 pages, 6 x 9, color photographs, index, paperbound, $19.50
ISBN 0-309-03783-1; hardbound, $32.50
Available February 1988.

Also available is a 45-minute videotape adapted from a teleconference on biodiversity sponsored by the National Academy of Sciences and the Smithsonian Institution. **BIODIVERSITY: The Videotape** — colorful, lively, and authoritative — can easily stand alone or serve as a supplement to the book.

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The National Academy Press was created by the National Academy of Sciences to publish the reports issued by the Academy and by the National Academy of Engineering, the Institute of Medicine, and the National Research Council, all operating under the charter granted to the National Academy of Sciences by the Congress of the United States.

INTRODUCTION

This directory lists the institutions which Science Service was able to locate that are conducting student science training programs in 1988. It replaces the annual directory published formerly by the National Science Foundation. In 1982, Science Service assumed the task of publication because of the importance of student science training programs. This directory will be sent to more than 31,000 high, junior high, and middle schools.

We hope that publication of the directory will help interested students to find programs which will contribute to their academic development. We also hope that it will encourage other institutions to develop student science training programs so that thousands more students can participate in such programs.

TYPES OF TRAINING OFFERED

Student science training programs are designed to provide talented high school students with educational opportunities in science, engineering, and mathematics beyond those normally available in courses or laboratory work in the students' schools. The primary means of accomplishing this is by bringing outstanding students into contact with the instructional staff, research personnel, and general resources of colleges, universities, and research institutions (private, industrial, and governmental).

Programs are offered at different times throughout the year:

- **Summer**: primarily in months of June, July, and August. Duration ranges from approximately one to ten weeks. Many institutions offer more than one session, allowing a student to study several subject areas.

- **Academic Year**: during the school year. Most institutions operate with two semesters, with coursework completed each semester. Typically the fall semester begins in September and ends in December and the spring semester begins in January and ends in May. Actual dates vary and institutions should be contacted for specific dates and application deadlines. Some institutions operate on a trimester basis, offering three sessions during the school year. Students can usually participate in one or all sessions.

- **Year Round**: both summer and academic year. Students have the option of participating for the entire year, the academic year, and/or the summer. The institution should be contacted for specific dates during the academic year.

There are three types of programs:

- **Research**: involves students as junior associates of a research team or as principal investigators on a problem of appropriate difficulty, under the direct supervision of an experienced research scientist. This type of activity is generally of more benefit to students with a strong background who can be assigned to a single problem for the duration of the project.

- **Courses**: provide students with academic experiences not available in their schools for some reason (too high level, too few students interested, lack of qualified teachers, budget, etc.). They may consist of courses specially designed for the program, regular early college courses, advanced placement courses, regular high school courses, or remedial courses.

- **Research/Courses**: provide course instruction in combination with offering students the opportunity to do some sort of research.

Most programs take place on college or university campuses, but they also may be at hospitals, research institutes, industrial laboratories, or in the field.

- **Commuter**: take **only** students who live in local area, who commute to and from home each day. Students who live outside the local area should not apply, because no housing facilities exist.

- **Residential**: take students from outside the local area and house and feed them, generally in college facilities.

- **Commuter/Residential**: take both commuters from the local area and residential students who come from outside the local area.

UNDERSTANDING THE DIRECTORY

GRADE LEVEL

Most programs also indicate a minimum grade level for participants. Where it is specified in the directory, grade level usually means the student must be currently at the grade level named (that is, he or she has passed the previous grade). For example, a summer course for 11th grade students means the student must have passed 10th grade for admission to the program.

QUALIFICATIONS

Admission to these programs is determined by the sponsoring institutions, not by Science Service, which is simply making the information available nationwide.

In general, admission is based on a combination of scholastic ability; completion of certain courses; high school teacher, principal, and/or counselor recommendations; and motivation. In some cases, programs give preference to minorities. Some institutions have established very specific selection criteria, such as a certain grade point average (GPA) or a GPA based on science courses which the student has taken.

ESTIMATED COSTS AND SCHOLARSHIPS

In many cases students are expected to pay their own expenses for room, board, travel, and tuition. A number of programs have scholarship funds available to help students who could not attend otherwise. Applicants must make their financial needs known when they fill out application forms for the institution they wish to attend. Most scholarships are based on financial need. However, some are based on academic achievement. In cases where there are no costs to students, scholarships are not applicable (n/a).

INQUIRIES AND APPLICATIONS

Prospective applicants should obtain more detailed information about individual programs and request application forms from the contacts named in each entry in the directory. A postcard or telephone call is usually sufficient. Early application is encouraged. Most programs have application deadlines two or three months prior to the initial date of the program.

NOTE

Programs are listed in this directory as a convenience to interested students and schools. Listing does not constitute a recommendation by Science Service, which takes no responsibility for the organization or administration of these programs. We wish to thank all who contributed information to this directory and apologize for any errors or omissions.

Please make this directory available to the high ability students who have, or who you think may develop interest in careers in the mathematical, physical, medical, biological, social, or engineering sciences.

Interested students should **always write to or call the sponsoring organizations for complete information** about the programs.

Publication made possible by a combination of funds from a National Science Foundation grant, from advertising in the Directory, and from Science Service.

REFERENCE GUIDE

STATE/INSTITUTION	TYPE OF PROGRAM		PAGE
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ALABAMA STATE UNIVERSITY	Summer Commuter	Research	1
AUBURN UNIVERSITY	Summer Residential	Courses	1
AUBURN UNIVERSITY AT MONTGOMERY	Year Round Commuter	Courses	1
BIRMINGHAM-SOUTHERN COLLEGE	Summer Commuter/Residential	Courses	1
GEORGE WASHINGTON UNIVERSITY	Summer Commuter	Research	1
HUNTINGDON COLLEGE	Summer Commuter/Residential	Courses	1
JACKSONVILLE STATE UNIVERSITY	Year Round Commuter/Residential	Courses	1
STILLMAN COLLEGE	Summer Commuter/Residential	Both	1
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UNIVERSITY OF ALABAMA AT BIRMINGHAM	Summer Commuter	Research	1
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UNIVERSITY OF ALASKA-SOUTHEAST	Summer Residential	Both	1
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ARIZONA STATE UNIVERSITY	Summer Commuter/Residential	Courses	2
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ARKANSAS			
ARKANSAS DEPARTMENT OF EDUCATION	Summer Commuter/Residential	Both	2
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UNIVERSITY OF ARKANSAS AT LITTLE ROCK	Summer Commuter	Courses	2
UNIVERSITY OF ARKANSAS, FAYETTEVILLE	Summer Commuter/Residential	Research	2
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CALIFORNIA INSTITUTE OF TECHNOLOGY	Year Round Commuter/Residential	Both	3
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CALIFORNIA STATE UNIVERSITY, DOMINGUEZ HILLS	Summer Commuter	Courses	2
CALIFORNIA STATE UNIVERSITY, LOS ANGELES	Summer Commuter	Both	2
CALIFORNIA STATE UNIVERSITY, LOS ANGELES	Year Round Commuter	Both	2
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FORD MOTOR COMPANY	Year Round Commuter	Both	20
GMI ENGINEERING & MANAGEMENT INSTITUTE	Summer Residential	Courses	20
MICHIGAN STATE UNIVERSITY	Summer Commuter/Residential	Research	20
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ALABAMA

COMMUTER

ALABAMA A&M UNIVERSITY. SUMMER MATH CAMP. COURSES: arithemetic; pre-algebra; algebra; geometry; trigonometry; math review for ACT. ENROLLMENT: 20. GRADE(S): 7-12. QUALIFIERS: teacher or parent recommendation. DURATION/DATES: 2 to 4 weeks for each area of math (6/22-7/31). EST. COST: unknown. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 7 days before a class begins. CONTACT: Dr. Jerry R. Shipman, Professor and Chairman, Department of Mathematics, Alabama Agricultural and Mechanical University, P.O. Box 326, Normal, AL 35762 (205/859-7300).

ALABAMA STATE UNIVERSITY. MINORITY HIGH SCHOOL STUDENT RESEARCH APPRENTICE PROGRAM. RESEARCH: n/a. ENROLLMENT: 5-8. GRADE(S): 11/12. QUALIFIERS: outstanding grades; interest in health research career; aptitude for and demonstrated interest in biomedical sciences; strong recommendations by science teachers; minority students. DURATION/DATES: 8 weeks (June-August). EST. COST: none. SCHOLARSHIPS: students are paid minimum wages for the duration of the program. APPLICATION DEADLINE: April. CONTACT: Dr. Shiva P. Singh, Biomedical Research and Training Program, Alabama State University, Montgomery, AL 36195 (205/293-4301).

AUBURN UNIVERSITY AT MONTGOMERY. HIGH SCHOOL EARLY ADMISSIONS PROGRAM. COURSES: biology; mathematics; chemistry; physics; scientific computing. ENROLLMENT: 10. GRADE(S): 12. QUALIFIERS: GPA; counselor recommendation. DURATION/DATES: academic year and summer. EST. COST: $300. SCHOLARSHIPS: none. APPLICATION DEADLINE: prior to beginning of each quarter. CONTACT: Lee Davis, Admissions Office, Auburn University at Montgomery, Montgomery, AL 36193 (205/271-9621).

GEORGE WASHINGTON UNIVERSITY. SCIENCE AND ENGINEERING APPRENTICE PROGRAM (SEAP). See complete listing in District of Columbia section.

UNIVERSITY OF ALABAMA AT BIRMINGHAM. MINORITY HIGH SCHOOL STUDENT RESEARCH APPRENTICE PROGRAM. RESEARCH: biomedical science. ENROLLMENT: 12-18. GRADE(S): 12. QUALIFIERS: interest in biomedical research as career; aptitude for and demonstrated interest in science and math; language skills; outstanding H.S. grades; must be minority student; must be able to commute daily to UAB campus. DURATION/DATES: 10 weeks (June-August). EST. COST: none. SCHOLARSHIPS: students are paid minimum wages for the duration of the program. APPLICATION DEADLINE: April. CONTACT: Kenneth M. Pruett, Ph.D., Office of Research and Grants Administration, The University of Alabama at Birmingham, Birmingham, AL 35294 (205/934-4346).

COMMUTER/RESIDENTIAL

BIRMINGHAM-SOUTHERN COLLEGE. SUMMER SCHOLARS PROGRAM. COURSES: college algebra; precalculus; analytical geometry and calculus; general biology; general astronomy. ENROLLMENT: 100. GRADE(S): 12. QUALIFIERS: H.S. record; ACT or SAT scores; school recommendations. DURATION/DATES: 8 weeks (6/14-8/10). EST. COST: $75 (commuter); $750 (residential). SCHOLARSHIPS: full tuition scholarships to all. APPLICATION DEADLINE: 3/31. CONTACT: Mr. Robert Dortch, Birmingham-Southern College, Birmingham, AL 35254 (205/226-4696).

HUNTINGDON COLLEGE. STEP AHEAD. COURSES: general chemistry; biology; statistics; precalculus; computer science. ENROLLMENT: 75. GRADE(S): 11. QUALIFIERS: GPA of 3.0 and above. DURATION/DATES: 6 weeks (6/6-7/15). EST. COST: tuition scholarship $500 for room and board. SCHOLARSHIPS: unknown. APPLICATION DEADLINE: 5/31. CONTACT: Linda Olsen, Huntingdon College, 1500 East Fairview Avenue, Montgomery, AL 36194-6201 (205/834-3300).

JACKSONVILLE STATE UNIVERSITY. PRECOLLEGE ACCELERATED PROGRAM. COURSES: natural and physical science; mathematics; engineering; computer science; humanities; social sciences; fine arts. ENROLLMENT: 32. GRADE(S): 11/12. QUALIFIERS: recommendation of H.S. faculty, principal, and/or superintendent; B average or better. DURATION/DATES: academic year and summer. EST. COST: $45/credit hour (residential cost dependent upon term). SCHOLARSHIPS: none. APPLICATION DEADLINE: preference 3 months before term begins. CONTACT: William A. Meehan, Assistant to the Vice President for Academic Affairs, Jacksonville State University, Pelham Road, Jacksonville, AL 36265 (205/231-5004).

STILLMAN COLLEGE. IMPROVEMENT OF MATHEMATICS/SCIENCE COMPETENCIES OF MINORITY HIGH SCHOOL STUDENTS. RESEARCH/COURSES: mathematics; computer science; physics; chemistry; biology. ENROLLMENT: 20. GRADE(S): 10/11/12. QUALIFIERS: GPA; student's career goals and interests; communication skills; recommendations from teachers. DURATION/DATES: 6 weeks (6/6-7/15). EST. COST: none. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 3/31. CONTACT: Dr. Jarnail Singh, Department of Biology, Stillman College, Tuscaloosa, AL 35405 (205/349-4240, ext. 605).

UNIVERSITY OF ALABAMA. CAPSTONE SUMMER HONORS PROGRAM. COURSES: mathematics; social sciences; natural sciences; music; arts; journalism; communication. ENROLLMENT: 150 (75/term). GRADE(S): 11. QUALIFIERS: profile reflects a typical score of 25 ACT or 1150 SAT with counselor recommendation and in top quarter of class. DURATION/DATES: two 5.5-week terms (6/4-7/9; 7/9-8/12). EST. COST: $900 (residential); $450 (commuter). SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/15 (1st term); 6/15 (2nd term). CONTACT: David J. Heggem, Jr., Campus Programs, The University of Alabama, P.O. Box 6206, Tuscaloosa, AL 35487-6206 (205/348-6380).

RESIDENTIAL

AUBURN UNIVERSITY. MINORITY INTRODUCTION TO ENGINEERING. COURSES: engineering; mathematics; computer sciences. ENROLLMENT: 25. GRADE(S): 11. QUALIFIERS: minority student; interest in engineering; H.S. GPA and activities; standardized tests; letters of recommendation. DURATION/DATES: 2 weeks (June or July). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/1. CONTACT: Nels Madsen, Mechanical Engineering Department, Auburn University, Auburn, AL 36849-3501 (205/826-4820).

ALASKA

RESIDENTIAL

UNIVERSITY OF ALASKA-SOUTHEAST AND UNIVERSITY OF IDAHO. EXPEDITIONARY AND FIELD SCIENCE TRAINING PROGRAM, JUNEAU ICEFIELD, ALASKA. RESEARCH/COURSES:field science (environmental science, glaciology, geology, meteorology). ENROLLMENT: 15 H.S. students, plus undergraduates. GRADE(S): 11/12. QUALIFIERS: high ability senior H.S. students with some experience in mountain and outdoor living. DURATION/DATES: 8 weeks (7/1-8/24). EST. COST: $1950. SCHOLARSHIPS: limited. APPLICATION DEADLINE: 6/15. CONTACT: Dr. Maynard M. Miller, Director, Glaciological Institute, University of Idaho, Moscow, ID 83843 (208/882-1237).

ARIZONA

COMMUTER

ARIZONA STATE UNIVERSITY. CENTER FOR ACADEMIC PRECOCITY (CAP). COURSES: variety of mathematics, science, computer, and humanities courses. ENROLLMENT: open. GRADE(S): 2-11. QUALIFIERS: varies from course to course; minimum SAT-math of 400+ and/or SAT-verbal of 330+ (other test scores apply to younger students). DURATION/DATES: academic year. EST. COST: $365/course. SCHOLARSHIPS: yes (limited). APPLICATION DEADLINE: 9/26 (fall); 1/15 (spring). CONTACT: Eleanor Flake, Center for Academic Precocity, College of Education, Arizona State University, Tempe, AZ 85287-2711 (602/965-4757).

COMMUTER/RESIDENTIAL

ARIZONA STATE UNIVERSITY. CENTER FOR ACADEMIC PRECOCITY (CAP). COURSES: variety of mathematics, science, computer, and humanities courses. ENROLLMENT: open. GRADE(S): 2-12. QUALIFIERS: varies from course to course; minimum SAT-math of 400+ and/or SAT-verbal of 330+ (other test scores apply to younger students). DURATION/DATES: 5 weeks (6/25-7/30). EST. COST: $265 (commuter); $1,650 (residential). SCHOLARSHIPS: yes (limited). APPLICATION DEADLINE: 4/20. CONTACT: Eleanor Flake, Center for Academic Precocity, College of Education, Arizona State University, Tempe, AZ 85287-2711 (602/965-4757).

UNIVERSITY OF ARIZONA. PRECOLLEGE PROGRAM FOR GIFTED AND TALENTED STUDENTS. COURSES: astronomy; biology; chemistry; mathematics; geology; computer science; engineering; botany. ENROLLMENT: 150. GRADE(S): 12. QUALIFIERS: 3.25 GPA; two letters of recommendation. DURATION/DATES: 5 weeks (6/3-7/7). EST. COST: $775 (includes housing). SCHOLARSHIPS: yes, but limited. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Robert Vignery, Honors Center, 112 Education Building, Precollege Program for Gifted and Talented Students, University of Arizona, Tucson, AZ 85721 (602/621-6901).

ARKANSAS

COMMUTER

*UNIVERSITY OF ARKANSAS AT LITTLE ROCK. SUMMER SCIENCE INSTITUTE. COURSES: chemistry; mathematics; field science; biology. ENROLLMENT: 80. GRADE(S): 10/11/12. QUALIFIERS: transcript; letters; test scores; science prerequisites. DURATION/DATES: 2 weeks (July). EST. COST: none. SCHOLARSHIPS: none. APPLICATION DEADLINE: unknown. CONTACT: Richard Hanson and Fred Watson, Department of Chemistry, University of Arkansas at Little Rock, 2801 South University, Little Rock, AR 72204 (501/569-3152). *Planned, but not definite.

COMMUTER/RESIDENTIAL

ARKANSAS DEPARTMENT OF EDUCATION THROUGH GRANT AWARDS TO AGENCIES. ACADEMIC ENRICHMENT FOR GIFTED IN SUMMER (AEGIS). RESEARCH/COURSES: various. ENROLLMENT: 300 (in various programs). GRADE(S): 9-12. QUALIFIERS: chosen by individual programs; must be in compliance with Arkansas Gifted and Talented Program Approval Standards. DURATION/DATES: 2 or 3 week programs (between 6/26 and 8/14). EST. COST: none. SCHOLARSHIPS: n/a, program is state funded. APPLICATION DEADLINE: 3/7. CONTACT: Martha Bass, Arkansas Department of Education,Room 105C, Education Building, #4 Capitol Mall, Little Rock, AR 72201 (501/371-5437).

UNIVERSITY OF ARKANSAS, FAYETTEVILLE. SUMMER MINORITY APPRENTICE PROGRAM. RESEARCH: biomedical. ENROLLMENT: 6. GRADE(S): 11/12. QUALIFIERS: grades; courses completed; letters; career plans; ACT scores. DURATION/DATES: 8 weeks (6/15-8/15). EST. COST: none. SCHOLARSHIPS: stipend of $1,500 paid to each participant. APPLICATION DEADLINE: 3/30. CONTACT: Professor Dan Davis, Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville, AR 72701 (501/575-4601).

RESIDENTIAL

HENDRIX COLLEGE. ARKANSAS GOVERNOR'S SCHOOL FOR GIFTED AND TALENTED. COURSES: natural sciences (biology, chemistry, physics); and math. ENROLLMENT: 400 (150 in sciences). GRADE(S): 12. QUALIFIERS: exceptional ability; emotional maturity; task commitment; Arkansas resident. DURATION/DATES: 5.5 weeks (tentatively 6/15-7/24). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: January. CONTACT: Dr. Bruce Haggard, Arkansas Governor's School for the Gifted and Talented, Hendrix College, Conway, AR 72032 (501/450-1279).

CALIFORNIA

COMMUTER

CALIFORNIA STATE UNIVERSITY, DOMINGUEZ HILLS. ACADEMICS PLUS "A+". COURSES: biology; chemistry; computer science; earth science; mathematics; physics. ENROLLMENT: varies. GRADE(S): 12. QUALIFIERS: anticipated college eligibility. DURATION/DATES: academic year. EST. COST: $250/term. SCHOLARSHIPS: none. APPLICATION DEADLINE: two weeks before start of semester. CONTACT: Mr. Daniel Cano, Office of School Relations, California State University, Domingues Hills, Carson, CA 90747 (213/516-3699).

CALIFORNIA STATE UNIVERSITY, DOMINGUEZ HILLS. STEP (SCIENCE AND TECHNOLOGY ENRICHMENT PROGRAM). COURSES: biology; chemistry, computer science; earth science; mathematics; physics. ENROLLMENT: open. GRADE(S): 7/8/9. QUALIFIERS: teacher recommendations; motivation. DURATION/DATES: two 2-week sessions (6/27-7/29). EST. COST: $80/session. SCHOLARSHIPS: limited, partial. APPLICATION DEADLINE: until start of classes. CONTACT: Dr. Eunice Krinsky, Department of Mathematics, California State University, Domingues Hills, Carson, CA 90747 (213/516-3378).

CALIFORNIA STATE UNIVERSITY, LOS ANGELES. ACCELERATED COLLEGE ENROLLMENT (ACE). RESEARCH/COURSES:chemistry; physics; geology; biology; microbiology; mathematics; computer science. ENROLLMENT: 350. GRADE(S): 11/12. QUALIFIERS: academic achievement; counselor recommendation. DURATION/DATES: academic year and summer (mid-June to end of August). EST. COST: $40. SCHOLARSHIPS: none. APPLICATION DEADLINE: rolling admissions. CONTACT: George Bachmann, California State University, 5151 State University Drive, Los Angeles, CA 90032 (213/224-2521).

CALIFORNIA STATE UNIVERSITY, LOS ANGELES. PRE-ACCELERATED COLLEGE ENROLLMENT (PACE). RESEARCH/COURSES: chemistry; physics; geology; biology; microbiology; mathematics; computer science. ENROLLMENT: 100. GRADE(S): 9/10. QUALIFIERS: gifted status. DURATION/DATES: summer (mid-June to end of August). EST. COST: $40. SCHOLARSHIPS: none. APPLICATION DEADLINE: rolling admissions. CONTACT: George Bachmann, California State University, 5151 State University Drive, Los Angeles, CA 90032 (213/224-2521).

GEORGE WASHINGTON UNIVERSITY. SCIENCE AND ENGINEERING APPRENTICE PROGRAM (SEAP). See complete listing in District of Columbia section.

ROCKWELL INTERNATIONAL SCIENCE CENTER. YOUTH MOTIVATION PROGRAM. RESEARCH: physical and information sciences. ENROLLMENT: 15-20. GRADE(S): 12. QUALIFIERS: science orientation; GPA; recommendation from

H.S. science faculty; interview; must be local resident and attend local H.S.. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 10/1. CONTACT: Sylvia Savage, Youth Motivation Program Coordinator, Rockwell International Science Center, 1049 Camino Dos Rios, Thousand Oaks, CA 91360 (805/373-4126).

UNIVERSITY OF CALIFORNIA, DAVIS. SUMMERTIME CAMPUS/JUPITER. COURSES: physics; chemistry labs adapted for young people; mathematics; geology; ecology; botany; zoology. ENROLLMENT: 210 (70+/session). GRADE(S): 4-8. QUALIFIERS: reasonable performance at grade level indicated. DURATION/DATES: three 2-week sessions (7/5-15; 7/18-29; 8/1-12). EST. COST: $180/2-week session. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1 and 7/1. CONTACT: University Extension, Education Unit Office, University of California, Davis, CA 95616 (916/752-8253).

UNIVERSITY OF CALIFORNIA, SANTA BARBARA. YOUNG SCHOLARS PROGRAM. COURSES: art; biology; literature; mathematics; music composition; physics. ENROLLMENT: 10-25. GRADE(S): 7-12. QUALIFIERS: test scores; transcripts; recommendations; ability. DURATION/DATES: academic year. EST. COST: $50/quarter, plus books. SCHOLARSHIPS: yes. APPLICATION DEADLINE: variable (preceding each academic quarter). CONTACT: Max Weiss, Provost, College of Creative Studies, University of California, Santa Barbara, CA 93106 (805/961-3759).

UNIVERSITY OF SOUTHERN CALIFORNIA. SUMMER HONORS PROGRAM. COURSES: life sciences; physical sciences. ENROLLMENT: 100. GRADE(S): 12. QUALIFIERS: nomination by counselors; PSAT; GPA; student essay; recommendations. DURATION/DATES: 3 weeks (6/20-7/8). EST. COST: books and parking only. SCHOLARSHIPS: included in cost. APPLICATION DEADLINE: unknown. CONTACT: Richard Fliegel, Jefferson 200, University of Southern California, University Park, Los Angeles, CA 90089 (213/743-8684).

COMMUTER/RESIDENTIAL

CALIFORNIA INSTITUTE OF TECHNOLOGY. SECONDARY SCHOOL SCIENCE PROJECT. RESEARCH/COURSES: molecular biology; chemistry; physics/trigonometry; physics/calculus; all levels of H.S. mathematics. ENROLLMENT: 500. GRADE(S): 7-12. QUALIFIERS: proper math level requisite to qualify for course material. DURATION/DATES: academic year and summer (6/21-8/6). EST. COST: donations and cost of books (commuter); $500 (residential). SCHOLARSHIPS: none. APPLICATION DEADLINE: 10/1 (fall); 3/15 (summer). CONTACT: Lee F. Browne, 10-63 Caltech, Pasadena, CA 91125 (818/356-6207).

NORTHROP UNIVERSITY. SUMMER INSTITUTE. COURSES: computer applications in engineering. ENROLLMENT: 40. GRADE(S): 11/12. QUALIFIERS: completed algebra II and geometry with C or better; PSAT/SAT scores, if available. DURATION/DATES: 6 weeks (7/11-8/19). EST. COST: $200. SCHOLARSHIPS: yes, and work-study. APPLICATION DEADLINE: 7/8. CONTACT: Office of Admissions, Northrop University, 5800 West Arbor Vitae, Los Angeles, CA 90045-4770 (213/337-4404).

PEGASUS PROGRAMS, INC. AND THE UNIVERSITY OF CALIFORNIA, IRVINE. PEGASUS PROJECT FOR THE ACADEMICALLY TALENTED (PPAT) AND PROJECT EXCEL. COURSES: chemistry; anatomy; geometry; physics; Latin; fast-paced precalculus math; expository writing; study skills. ENROLLMENT: 350 (250 in PPAT and 100 in Project Excel). GRADE(S): 6-11. QUALIFIERS: students in 95%+ on achievement test. For PPAT: SAT verbal 390 (SCAT verbal 467) and/or SAT math 430 (SCAT math 478) for grades 6-8. For grades 9-11: +20 SAT (+2 SCAT) points per grade level. DURATION/DATES: 5 weeks (6/27-7/29). EST. COST: $585 (PPAT); $365 (Project EXCEL). SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/1. CONTACT: Lorraine Bostick, P.O. Box 4767, Irvine, CA 92716-4767 (714/856-5358).

PEGASUS PROGRAMS, INC. AND THE UNIVERSITY OF CALIFORNIA, IRVINE. PEGASUS SUMMER SCHOLAR PROGRAM. COURSES: chemistry; mathematics; computer sciences; physics; engineering; biology. ENROLLMENT: 20-30. GRADE(S): 10/11/12. QUALIFIERS: 3.5 GPA. DURATION/DATES: 5.5 weeks (6/22-7/31). EST. COST: $400/4-unit course. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 6/1. CONTACT: Lorraine Bostick, Pegasus Programs, Inc., University of California, Irvine, CA 92716-4767 (714/856-5358).

UNIVERSITY OF CALIFORNIA, DAVIS. INTERDISCIPLINARY PROGRAM IN BIOLOGICAL SCIENCES. RESEARCH/COURSES: biological sciences and research. ENROLLMENT: 30-35. GRADE(S): 10/11/12. QUALIFIERS: school nomination; academically able. DURATION/DATES: 6 weeks (6/27-8/5). EST. COST: $1,200. SCHOLARSHIPS: unknown. APPLICATION DEADLINE: 3/1. CONTACT: Dr. Victor A. Perkes, Department of Science Education, University of California, Davis, CA 95616 (916/752-0757; 916/752-2622).

UNIVERSITY OF SOUTHERN CALIFORNIA. SUMMER ENGINEERING RESEARCH PROGRAM. RESEARCH: engineering (aerospace, biomedical, chemical, civil, electrical, environmental, industrial and systems, materials science, mechanical, petroleum); computer science. ENROLLMENT: 30. GRADE(S): 12 and selected juniors. QUALIFIERS: superior in science and math skills; H.S. recommendations; GPA; college board scores; personal statement. DURATION/DATES: 7 weeks (6/19-8/5). EST. COST: $1,850 (residential); $450 (commuter). SCHOLARSHIPS: limited. APPLICATION DEADLINE: rolling admission, 4/1. CONTACT: Dr. Carole L. Snow, University of Southern California, School of Engineering, Olin Hall 104, Los Angeles, CA 90089-1455 (213/743-2471).

UNIVERSITY OF THE PACIFIC. ARTIFICIAL INTELLIGENCE/PROGRAMMING AND PHILOSOPHY. COURSES: computer science; logic; philosophy. ENROLLMENT: 15. GRADE(S): 12. QUALIFIERS: GPA; letter of recommendation; PSAT or SAT scores; evidence of programming experience; student self-evaluation essay. DURATION/DATES: 3 weeks (6/20-7/8). EST. COST: $550 for housing, meals, books and software. SCHOLARSHIPS: yes. APPLICATION DEADLINE: unknown. CONTACT: Dr. Michael J. Minch, Department of Chemistry, University of the Pacific, 3601 Pacific Avenue, Stockton, CA 95211 (209/946-2442 or 2271).

UNIVERSITY OF THE PACIFIC. GENETIC ENGINEERING/RECOMBINANT DNA. RESEARCH/COURSES: chemistry; biology; molecular biology. ENROLLMENT: 15-25. GRADE(S): 12. QUALIFIERS: GPA; letters of recommendation; PSAT or SAT scores; most importantly, a student self-evaluation essay. DURATION/DATES: 3 weeks (6/20-7/8). EST. COST: $550 comprehensive fee for housing and meals. SCHOLARSHIPS: yes, based on need. APPLICATION DEADLINE: unknown. CONTACT: Dr. Michael J. Minch, Department of Chemistry, University of the Pacific, 3601 Pacific Avenue, Stockton, CA 95211 (209/946-2442 or 2271).

RESIDENTIAL

OCCIDENTAL COLLEGE. OCEANOLOGY AT OCCIDENTAL COLLEGE. RESEARCH/COURSES: biology with some geology; chemistry; physics. ENROLLMENT: 20-30. GRADE(S): 12. QUALIFIERS: B+ or better average; 1100+ PSAT; high motivation. DURATION/DATES: 5 weeks (tentatively 7/4-8/6). EST. COST: $1,200 tuition; $800 room and board. SCHOLARSHIPS: none. APPLICATION DEADLINE: early June. CONTACT: Dr. Gary G. Martin, Department of Biology, Occidental College, Los Angeles, CA 90041 (213/259-2890).

THE THACHER SCHOOL. SUMMER SCIENCE PROGRAM. RESEARCH/COURSES: physics; mathematics; astronomy; astrophotography; computer programming; includes research projects in observational astronomy. ENROLLMENT: 36. GRADE(S): 12. QUALIFIERS: 3 years of mathematics (calculus preferred, but not required); 1 year advanced science (physics preferred, but not required); test scores; transcript; recommendations. DURATION/DATES: 6 weeks (6/27-8/6). EST. COST: $1,250. SCHOLARSHIPS: yes, depending on demonstrated need. APPLICATION DEADLINE: 4/16. CONTACT: Roger D. Klausler, Administrative Director, The Thacher School, Ojai, CA 93023 (805/646-8231).

UNIVERSITY OF CALIFORNIA, SANTA BARBARA. HIGH SCHOOL JUNIORS PROGRAM (HSJ). COURSES: all subjects. ENROLLMENT: 300. GRADE(S): 12. QUALIFIERS: 3.0 GPA; transcript; recommendations. DURATION/DATES: 6 weeks (6/20-7/29). EST. COST: $1,100 plus books. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/22. CONTACT: Dr. Eugene Johnsen, Summer Session Office, University of California, Santa Barbara, CA 93106 (805/961-2069).

UNIVERSITY OF CALIFORNIA, SANTA BARBARA. YOUNG SCHOLARS SUMMER PROGRAM (YSSP). COURSES: art; biology; literature; mathematics; physics. ENROLLMENT: 60-70. GRADE(S): 9-12. QUALIFIERS: placement test; transcript; recommendations. DURATION/DATES: 6 weeks (6/20-7/29). EST. COST: $1,200 plus books. SCHOLARSHIPS: none. APPLICATION DEADLINE: 4/22. CONTACT: Dr. Eugene Johnsen, Summer Session Office, University of California, Santa Barbara, CA 93106 (805/961-2069).

COLORADO

COMMUTER

UNIVERSITY OF SOUTHERN COLORADO. MINORITY HIGH SCHOOL STUDENT RESEARCH APPRENTICE PROGRAM. RESEARCH: biology; chemistry; psychology. ENROLLMENT: 8. GRADE(S): 11/12. QUALIFIERS: science and mathematics background; grades; extracurricular science involvement; written expression of interest in science and research; ethnic status. DURATION/DATES: 8 weeks minimum (tentatively 3/1/88-2/28/89). EST. COST: none. SCHOLARSHIPS: hourly wage. APPLICATION DEADLINE: unknown. CONTACT: Paul Schnur, Ph.D., Department of Psychology, University of Southern Colorado, Pueblo, CO 81001 (303/549-2104).

COMMUTER/RESIDENTIAL

COLORADO STATE UNIVERSITY. MENTORSHIPS. RESEARCH: students meet and work with scientists and graduate students on a one-to-one basis in all areas of science, mathematics, and engineering. ENROLLMENT: 25. GRADE(S): ages 16-18. QUALIFIERS: 3 letters of recommendation; personal statement; standardized test score results. DURATION/DATES: 9 days (7/23-31). EST. COST: $200 room and board; $250 tuition. SCHOLARSHIPS: limited (partial tuition). APPLICATION DEADLINE: 5/1. CONTACT: Dr. William Timpson, School of Occupational and Educational Studies, Humanities Building, Colorado State University, Fort Collins, CO 80523 (303/491-6816).

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COLORADO STATE UNIVERSITY. YOUTH ENRICHMENT PROGRAM. COURSES: small group analysis and discussion of engineering applications; astronomy; exploring mathematics. ENROLLMENT: 100-150. GRADE(S): ages 11-15. QUALIFIERS: 3 letters of recommendation; personal statement; standardized test score results. DURATION/DATES: 9 days (7/23-31). EST. COST: $200 room and board; $250 tuition. SCHOLARSHIPS: limited (partial tuition). APPLICATION DEADLINE: 5/1. CONTACT: Dr. William Timpson, School of Occupational and Educational Studies, Humanities Building, Colorado State University, Fort Collins, CO 80523 (303/491-6816).

RESIDENTIAL

AMERICAN INDIAN SCIENCE AND ENGINEERING SOCIETY. AMERICAN INDIAN SCIENCE AND ENGINEERING INSTITUTE. COURSES: survey of mathematics; science; engineering topics. ENROLLMENT: 30. GRADE(S): 8-10. QUALIFIERS: American Indian students in top 25% of class; stated interest in mathematics or science career. DURATION/DATES: 2 weeks (August). EST. COST: based on ability to pay, not to exceed $500. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/30. CONTACT: Norbert Hill, AISES, 1085 14th Street, Suite 1506, Boulder, CO 80302 (303/492-8658).

COLORADO STATE UNIVERSITY. SCIENCE MOTIVATION PROGRAM. RESEARCH: physiology; microbiology; pathology; environmental health; neuroscience; engineering; ecology. ENROLLMENT: 15-22. GRADE(S): 10/11/12. QUALIFIERS: must have minority background; teacher recommendation; academic record, potential to excel in science. DURATION/DATES: 4 weeks (6/26-7/23). EST. COST: travel expenses (room and board provided). SCHOLARSHIPS: $520 stipend. APPLICATION DEADLINE: 3/15. CONTACT: C. W. Miller, Department of Physiology, Colorado State University, Fort Collins, CO 80523 (303/491-6187).

CROW CANYON ARCHAEOLOGICAL CENTER. HIGH SCHOOL FIELD SCHOOL. RESEARCH/COURSES: archaeology; anthropology; ecology. ENROLLMENT: 40. GRADE(S): 9-12. QUALIFIERS: recommendations; interest in archaeology and out-of-doors. DURATION/DATES: 4 weeks (6/19-7/16). EST. COST: $1,500. SCHOLARSHIPS: yes, upon application. APPLICATION DEADLINE: open. CONTACT: Ms. Cheryl Swartzlander, Registrar, Crow Canyon, 23390 County Road K, Cortez, CO 81321 (303/565-8975).

UNITED STATES AIR FORCE ACADEMY. SUMMER SCIENTIFIC SEMINAR. COURSES: aeronautics; astronautics; materials; chemistry; biology; physics; computer science; electronics. ENROLLMENT: 500. GRADE(S): 12. QUALIFIERS: PSAT (50 verbal/55 math) or SAT (500 verbal/550 math) or ACT (21 verbal/24 math); top 1/3 of class; motivated to attend the Academy; active in extra-curricular activities. DURATION/DATES: two 1-week sessions (6/12-19; 6/19-26). EST. COST: $75 registration and transportation to and from Academy. SCHOLARSHIPS: minority students only. APPLICATION DEADLINE: 2/15. CONTACT: MAJ Dan Moore, HQ USAFA/RRMX (MAJ MOORE), U.S. Air Force Academy, Colorado Springs, CO 80840-5651 (303/472-2233 or 36).

CONNECTICUT

COMMUTER

EASTERN CONNECTICUT STATE UNIVERSITY. WINDHAM HIGH SCHOOL INTENSIVE PROGRAM. COURSES: mathematics; computer science; physics; chemistry; biology; and other recommended courses. ENROLLMENT: 15. GRADE(S): 12. QUALIFIERS: counselor/teacher recommendations. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 8/1 (fall); 1/15 (spring). CONTACT: Dr. Sophie Jenkins, Burr Hall, Eastern Connecticut State University, Willimantic, CT 06226 (203/456-5338).

PROJECT OCEANOLOGY. FALL/SPRING AFTER SCHOOL PROGRAM/SUMMER PROGRAM. RESEARCH: marine biology. ENROLLMENT: after school 30; summer 80. GRADE(S): 7-12. QUALIFIERS: recommendation of school system; must attend New England schools which are members of Project Oceanology. DURATION/DATES: 10 weeks after school during academic year; three 3-week sessions during summer. EST. COST: transportation. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: varies, contact Project Oceanology. CONTACT: Dr. Howard M. Weiss, Project Oceanology, Avery Point, Groton, CT 06340 (203/445-9007).

SOUTHERN CONNECTICUT STATE UNIVERSITY. COLLEGE COURSES FOR HIGH SCHOOL STUDENTS (CCHS). COURSES: science lectures and labs; mathematics; liberal arts. ENROLLMENT: 20-25/term. GRADE(S): 10/11/12. QUALIFIERS: H.S. counselors select students. DURATION/DATES: academic year. EST. COST: $10/term. SCHOLARSHIPS: none. APPLICATION DEADLINE: seats available basis first day of each term. CONTACT: Michael Perillo, Associate Dean, School of Graduate Studies/Continuing Education, Southern Connecticut State University, 501 Crescent Street, New Haven, CT 06515 (203/397-4325).

UNIVERSITY OF NEW HAVEN. SCIENCE IN SUMMER. RESEARCH/COURSES: combination of science, mathematics, and computers. ENROLLMENT: 10-20. GRADE(S): 9-12. QUALIFIERS: nomination by teacher; transcript; two letters of recommendation; gifted or high ability. DURATION/DATES: 3 weeks (7/8-24). EST. COST: $50. SCHOLARSHIPS: yes, $465/student. APPLICATION DEADLINE: 5/15. CONTACT: Dr. Arthur J. Repak, Director, Science in Summer, c/o The University of New Haven, Dean School of Professional Studies & Continuing Education, 300 Orange Avenue, West Haven, CT 06516 (203/271-2567).

WESTERN CONNECTICUT STATE UNIVERSITY. "TRANSITION TO UNIVERSITY" PROGRAM. COURSES: computer science; chemistry; physics; mathematics; biology. ENROLLMENT: 10-20. GRADE(S): 11/12. QUALIFIERS: B average; combined SAT of 1,000; top 20% rank in class. DURATION/DATES: academic year. EST. COST: $71/credit hour. SCHOLARSHIPS: none. APPLICATION DEADLINE: 4 weeks before start of semester. CONTACT: Delmore Kinney, Director of Admissions, Western Connecticut State University, 181 White Street, Danbury, CT 06810 (203/797-4314).

COMMUTER/RESIDENTIAL

HOTCHKISS SUMMER PROGRAM. THE HOTCHKISS SUMMER PROGRAM. COURSES: biology; physics; chemistry; marine animal research; algebra; geometry; precalculus. ENROLLMENT: 250. GRADE(S): 10/11/12. QUALIFIERS: transcript; recommendations from two teachers and guidance counselor; autobiographical essay. DURATION/DATES: 6 weeks (6/30-8/11). EST. COST: $2,300 (residential); $1,000 (commuter). SCHOLARSHIPS: available, based on merit and need. APPLICATION DEADLINE: rolling admission; deadline 5/15. CONTACT: Richard D. Hughes, Jr., The Hotchkiss Summer Program, Lakeview, CT 06039 (203/435-0410).

LOOMIS-CHAFFEE SCHOOL (WINDSOR, CONNECTICUT). NATIONAL COMPUTER CAMPS. COURSES: computer programming; computer science. ENROLLMENT: 50/week. GRADE(S): ages 8-18. QUALIFIERS: unknown. DURATION/DATES: 1 or more weeks (6/26-7/29). EST. COST: $415/week. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/10 or by special arrangement. CONTACT: Michael Zabinski, Ph.D., Director, National Computer Camps, P.O. Box 585, Orange, CT 06477 (203/795-9667). Programs also offered at Ursuline College (Cleveland, Ohio) and Oglethorpe University (Atlanta, Georgia).

SAINT JOSEPH COLLEGE. BUDDY SYSTEM RESEARCH PROGRAM. RESEARCH: chemistry; biology; physics; mathematics; computer science. ENROLLMENT: 2-5. GRADE(S): 10/11/12. QUALIFIERS: interest only. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: none. CONTACT: Peter G. Markow, Department of Chemistry, St. Joseph College, West Hartford, CT 06117 (203/232-4571).

SAINT JOSEPH COLLEGE. CHALLENGE PROGRAM FOR HIGH SCHOOL STUDENTS. COURSES: biology; chemistry; computer science; mathematics; physics. ENROLLMENT: 5-30. GRADE(S): 11/12. QUALIFIERS: PSAT and SAT scores; student statement; 2 letters from teachers or guidance counselors. DURATION/DATES: academic year. EST. COST: $20 plus books and lab fees. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/31 (fall); 12/31 (spring). CONTACT: Peter G. Markow, Department of Chemistry, St. Joseph College, West Hartford, CT 06117 (203/232-4571).

YALE SUMMER PROGRAMS. YALE SUMMER PROGRAMS. COURSES: biology; chemistry; computer science; mathematics; physics; statistics. ENROLLMENT: unknown. GRADE(S): 12. QUALIFIERS: H.S. transcript; PSAT or SAT; two letters of recommendation. DURATION/DATES: 4 to 10 weeks during summer. EST. COST: $700-2,100 tuition (depending on courses); $750-1,500 room & board (depending on duration of stay). SCHOLARSHIPS: limited. APPLICATION DEADLINE: mid-April (if applying for scholarship); early June (if not applying for scholarship). CONTACT: Joe Gordon, Yale Summer Programs, P.O. Box 2145 Yale Station, New Haven, CT 06520 (203/432-2430).

RESIDENTIAL

UNITED STATES COAST GUARD ACADEMY. MINORITY INTRODUCTION TO ENGINEERING (MITE). COURSES: engineering. ENROLLMENT: 75. GRADE(S): 12. QUALIFIERS: 500 math SAT; expressed interest in engineering; leadership potential. DURATION/DATES: 1 week (July). EST. COST: incidental expenses. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: mid-late May. CONTACT: LT Doreen Fuller and LTJG Chris Roberts, U.S. Coast Guard Academy, New London, CT 06320 (203/444-8503).

DELAWARE

RESIDENTIAL

UNIVERSITY OF DELAWARE. SUMMER COLLEGE. COURSES: science; mathematics; other liberal arts courses. ENROLLMENT: 75. GRADE(S): 12. QUALIFIERS: grades; PSAT; 2 recommendations; written application. DURATION/DATES: 5 weeks (6/28-8/1). EST. COST: $1,600 (non-Delaware); $800 (Delaware students). SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/15. CONTACT: Martha Collins, Special Sessions, 325 Hullihen Hall, University of Delaware, Newark, DE 19716 (302/451-2852).

DISTRICT OF COLUMBIA

COMMUTER

AMERICAN UNIVERSITY. COLLEGE PROGRAM FOR HIGH SCHOOL STUDENTS. COURSES: biology; physics; chemistry; computer science. ENROLLMENT: unlimited. GRADE(S): 11/12. QUALIFIERS: high ability in sciences required; 3.5 GPA; 2 letters of recommendation from H.S.. DURATION/DATES: academic year and summer. EST. COST: $299/credit hour. SCHOLARSHIPS: none. APPLICATION DEADLINE: 2/1 (fall); 12/1 (spring); 4/5 (summer). CONTACT: Suzanne Groscup, College Program for H.S. Students, University Programs Advisement Center, McKinley Building, 1st Floor, 4400 Massachusetts Avenue, N.W., Washington, DC 20016 (202/885-2500).

GEORGE WASHINGTON UNIVERSITY. FRESHMEN ENGINEERING COURSES OF SCIENCE AND ENGINEERING APPRENTICE PROGRAM (SEAP). COURSES: engineering graphics; computer science. ENROLLMENT: 100. GRADE(S): 10/11/12. QUALIFIERS: SEAP selected apprentices and applicants (see listing below for GWU Science and Engineering Apprentice Program); students must be able to commute to DC. DURATION/DATES: 7 Saturdays (6/18-8/13). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 1/13. CONTACT: Marylin Krupsaw, SEAP, School of Engineering and Applied Science, George Washington University, Washington, DC 20052 (202/994-2234 or 676-5478).

GEORGE WASHINGTON UNIVERSITY. NON-DEGREE COURSES FOR SECONDARY SCHOOL STUDENTS. COURSES: biology; botany; zoology; chemistry; computer science; mathematics; physics; statistics; computer and information systems. ENROLLMENT: unlimited. GRADE(S): 11/12. QUALIFIERS: B average in college prep courses; PSAT scores of 50 verbal and 50 math, SAT scores of 500 verbal and 500 math, or ACT composite score of 24. DURATION/DATES: academic year. EST. COST: $330/credit hour. SCHOLARSHIPS: full-tuition scholarships available to students with clearly superior academic credentials. APPLICATION DEADLINE: 8/1 (fall); 12/1 (spring). CONTACT: Michael J. O'Leary, Coordinator - Secondary School Student Admissions, Office of Admissions, The George Washington University, Washington, DC 20052 (202/994-6040).

GEORGE WASHINGTON UNIVERSITY. SCIENCE AND ENGINEERING APPRENTICE PROGRAM (SEAP). RESEARCH: all (chemistry; physics; engineering; mathematics; computer science; medical engineering). ENROLLMENT: 600. GRADE(S): 10/11/12. QUALIFIERS: U.S. citizen; courses taken; grades received; standardized test scores; extra-curricular activities; teacher recommendation; personal essay. DURATION/DATES: 8 weeks (6/20-8/12). EST. COST: none. SCHOLARSHIPS: $1,100 stipend. APPLICATION DEADLINE: 1/13. CONTACT: Marylin Krupsaw, SEAP, School of Engineering and Applied Science, George Washington University, Washington, DC 20052 (202/994-2234 or 676-5478). Program also available in Alabama, California, Maryland, New Jersey, Pennsylvania, and Virginia at various locations.

GEORGE WASHINGTON UNIVERSITY. SCIENCE, TECHNOLOGY AND RESEARCH STUDENTS (STARS). COURSES: career guidance toward futures in science, mathematics, and engineering fields. ENROLLMENT: 30. GRADE(S): 7/8. QUALIFIERS: Washington, DC schools; U.S. citizen. DURATION/DATES: 3-day sessions (spring and fall during academic year). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: to be announced. CONTACT: Marylin Krupsaw, STARS Program, School of Engineering and Applied Science, George Washington University, Washington, DC 20052 (202/994-2234 or 676-5478).

UNIVERSITY OF THE DISTRICT OF COLUMBIA. PHYSICAL SCIENCE INSTITUTE. COURSES: mathematics; computer science; electrical, civil, and mechanical engineering; physics; chemistry; communication skills. ENROLLMENT: 500. GRADE(S): 10/11/12. QUALIFIERS: participation in entry level program (pre-engineering); academic records including standardized test scores. DURATION/DATES: academic year and summer. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 9/1 (fall); 5/1 (summer). CONTACT: Russell Chandler, Science and Engineering Center, Building 42-213, University of the District of Columbia, 4200 Connecticut Avenue, N.W., Washington, DC 20008 (202/282-7338).

UNIVERSITY OF THE DISTRICT OF COLUMBIA. SATURDAY ACADEMY. COURSES: mathematics; computer science; electrical engineering. ENROLLMENT: 200. GRADE(S): 8/9. QUALIFIERS: previous academic profiles; recommendations by schools. DURATION/DATES: academic year and

summer (7/5-8/6). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/14 (summer); 9/11 (fall); 1/9 (spring). CONTACT: Dr. Winson Coleman, Science and Engineering Center, Building 42-213, University of the District of Columbia, 4200 Connecticut Avenue, N.W., Washington, DC 20008 (202/282-7338).

UNIVERSITY OF THE DISTRICT OF COLUMBIA. SUMMER PROGRAM IN MATHEMATICS AND COMPUTER SCIENCE. RESEARCH/COURSES: finite mathematics; computer science; statistics. ENROLLMENT: 40. GRADE(S): 9/10. QUALIFIERS: must have completed and done well in introductory algebra; must be recommended by mathematics teacher. DURATION/DATES: 5 weeks (June). EST. COST: none. SCHOLARSHIPS: n/a, students are given stipends of $250. APPLICATION DEADLINE: 5/11. CONTACT: Dr. Beverly J. Anderson, University of the District of Columbia, 4200 Connecticut Avenue, N.W., Washington, DC 20008 (202/282-3171).

COMMUTER/RESIDENTIAL

GEORGE WASHINGTON UNIVERSITY. SUMMER SCHOLAR PROGRAM. COURSES: geology; mathematics; statistics. ENROLLMENT: unlimited. GRADE(S): 11/12. QUALIFIERS: B average in college preparatory courses; PSAT scores of 50 verbal and 50 math, SAT scores of 500 verbal and 500 math, or ACT composite score of 24. DURATION/DATES: 5 weeks (tentatively late June - late July). EST. COST: $268/credit hour (total cost for 6 credit hours and housing in 1987 was $2,350). SCHOLARSHIPS: yes. APPLICATION DEADLINE: 6/1. CONTACT: Michael J. O'Leary, SSP Coordinator, Office of Admissions, The George Washington University, Washington, DC 20052 (202/994-6040).

SMITHSONIAN INSTITUTION. INTERN '88. RESEARCH: varies -- computers; biology; animal science; botany; physics; marine science; archeology; geology. ENROLLMENT: 40 (20/session). GRADE(S): students must graduate sometime during 1988. QUALIFIERS: demonstrated interest in area of application; three letters of recommendation. DURATION/DATES: two 5-week sessions (mid-June to mid-August). EST. COST: none, each student receives a living allowance of $500, housing and transportation to and from DC. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: mid-March. CONTACT: Thomas Lowderbaugh, Intern '88, Office of Elementary & Secondary Education, Arts and Industries Building, Room 1163, Smithsonian Institution, Washington, DC 20560 (301/357-2005).

RESIDENTIAL

GALLAUDET UNIVERSITY. YOUNG SCHOLARS PROGRAM. RESEARCH/COURSES: physics; chemistry; biology; mathematics. ENROLLMENT: 20-25. GRADE(S): 9-12. QUALIFIERS: limited to deaf students; GPA; class rank; standardized test scores; recommendations; student essay. DURATION/DATES: 4 weeks (7/10-8/5). EST. COST: $1,200. SCHOLARSHIPS: yes, but limited. APPLICATION DEADLINE: 3/31. CONTACT: Dr. Richard W. Meisegeier, Honors Program, Gallaudet University, 800 Florida Avenue, NE, Washington, DC 20002 (202/651-5355).

HOWARD UNIVERSITY. SUMMER HEALTH CAREERS PROGRAM. COURSES: mathematics; chemistry; biology; physics; career seminars; field trips; non-science courses. ENROLLMENT: 50. GRADE(S): 12. QUALIFIERS: strong motivation; class rank; course background; SAT scores; letters of recommendation; admission to Howard University. DURATION/DATES: 6 to 8 weeks (June/July). EST. COST: $225-$275. SCHOLARSHIPS: none. APPLICATION DEADLINE: 3/15. CONTACT: Dr. G. F. Aboko-Cole, P.O. Box 1124, Administration Building, Howard University, Washington, DC 20059 (202/636-7231).

NATIONAL CENTER FOR EXCELLENCE IN EDUCATION. INTERNATIONAL SUMMER INSTITUTE. RESEARCH/COURSES: mathematics; physics; molecular biology; computer science. ENROLLMENT: 500. GRADE(S): 9/10/11. QUALIFIERS: nomination by H.S.; high score on American High School Mathematics and Physics Examination. DURATION/DATES: 3-6 weeks during June and July. EST. COST: $1,650 (3 weeks); $3,000 (6 weeks). SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Edward D. Lozansky, National Center for Excellence in Education, 4301 Connecticut Avenue, N.W., Washington, DC 20008 (202/364-0200).

FLORIDA

COMMUTER

BARRY UNIVERSITY. SUMMER PROGRAM FOR MINORITY HIGH SCHOOL RESEARCH APPRENTICESHIPS. RESEARCH: field ecology; marine sciences. ENROLLMENT: 1-4. GRADE(S): 9-12. QUALIFIERS: letters of recommendation; GPA; SAT (when available); special attention to documented financial needs. DURATION/DATES: 6 weeks (6/25-8/3). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 3/15. CONTACT: Jeremy R. Montague, Ph.D., Barry University, 11300 N.E. 2 Avenue, Miami, FL 33161 (305/758-3392, ext. 258).

FLORIDA A&M UNIVERSITY. PROGRAM OF EXCELLENCE. RESEARCH/COURSES: biology; chemistry; mathematics; computer science; physics. ENROLLMENT: 50. GRADE(S): 11/12. QUALIFIERS: must have attained jr. or sr. status and be currently enrolled; GPA of 2.75+; submitted 2 letters of recommendation; completed one year of biology, chemistry, or physics; completed intermediate algebra; residents of Leon, Gadsden, Jefferson, or Wakulla counties in Florida. DURATION/DATES: 5 weeks (6/27-7/29). EST. COST: transportation and meals. SCHOLARSHIPS: stipend. APPLICATION DEADLINE: 5/29. CONTACT: Dr. Lynette P. Padmore, Coordinator, Department of Biology, Florida A&M University, Tallahassee, FL 32307 (904/599-3825).

FLORIDA A&M UNIVERSITY. TALENTED YOUTH FOR THE PHYSICAL SCIENCES AND ENGINEERING. COURSES: chemistry; physics; trigonometry; computer programming; robotics. ENROLLMENT: 35-40. GRADE(S): 9/10/11. QUALIFIERS: minimum grade of B in algebra and in a science and math course last taken; recommendations by science and math teachers and guidance counselor; take college preparatory math and science courses the following year. DURATION/DATES: two sequential 3-week sessions (1st session 6/20-7/8; 2nd session 7/11-29). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: April. CONTACT: Dr. Mila E. Ignats, Developmental Research School, Box A-19, Florida A&M University, Tallahassee, FL 32307 (904/599-3151).

NOVA UNIVERSITY OCEANOGRAPHIC CENTER. SUMMER OCEANOGRAPHIC RESEARCH INSTITUTE. RESEARCH: oceanographic research; marine biological and coastal processes. ENROLLMENT: 12. GRADE(S): 11/12. QUALIFIERS: teacher recommendation; overall GPA; must have basic H.S. biology and chemistry courses. DURATION/DATES: 5 weeks (7/11-8/5). EST. COST: not yet determined. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1. CONTACT: Curtis Burney, Oceanographic Center, Nova University, Institute of Marine and Coastal Studies, 8000 N. Ocean Drive, Dania, FL 33004 (305/475-7487).

UNIVERSITY OF SOUTH FLORIDA. COLLEGE REACH OUT. COURSES: mathematics; English; science; computer use. ENROLLMENT: 65. GRADE(S): 9/10. QUALIFIERS: economically disadvantaged minority; live within commuting distance; teacher recommendation. DURATION/DATES: weekends during academic year and 6 weeks during summer. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: unknown. CONTACT: Dr. Carl Riggs, University of South Florida, LLL-012, Tampa, FL 33620 (813/974-3603).

UNIVERSITY OF SOUTH FLORIDA. HIGH SCHOOL MENTOR PROGRAM. RESEARCH: mathematics; biological and physical sciences; engineering; medicine; computer science. ENROLLMENT: 5-20. GRADE(S): 7-12. QUALIFIERS: teacher recommendation. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: none. CONTACT: Dr. Carl Riggs, University of South Florida, LLL-012, Tampa, FL 33620 (813/974-3603). Additional contact: Dr. Richard L. Mansell, University of South Florida, LIF-169, Tampa, FL 33620 (813/974-4068).

UNIVERSITY OF SOUTH FLORIDA. HILLSBOROUGH COUNTY BIOMEDICAL AND LIFE SCIENCE PROGRAM. COURSES: microbial biology; human cytogenetics. ENROLLMENT: 30 (15-first year; 15-second year). GRADE(S): 10/11/12. QUALIFIERS: responsibility of Hillsborough County Schools. DURATION/DATES: 6 weeks (June/July). EST. COST: $15. SCHOLARSHIPS: fee waivers. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Marvin R. Alvarez, University of South Florida, LIF-169, Tampa, FL 33620 (813/974-4068).

UNIVERSITY OF SOUTH FLORIDA. HILLSBOROUGH COUNTY MATHEMATICS AND ENGINEERING PROGRAM. COURSES: mathematics; computer science; engineering. ENROLLMENT: 60 (45-first year; 15-second year). GRADE(S): 10/11/12. QUALIFIERS: responsibility of Hillsborough County Schools. DURATION/DATES: 6 weeks (June/July). EST. COST: $15. SCHOLARSHIPS: fee waivers. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Joseph J. Liang, University of South Florida, PHY-342, Tampa, FL 33620 (813/974-4068).

UNIVERSITY OF SOUTH FLORIDA. HILLSBOROUGH COUNTY MATHEMATICS AND SCIENCE PROGRAM FOR GIFTED JUNIOR HIGH STUDENTS. COURSES: mathematics; computer science; physics. ENROLLMENT: 45. GRADE(S): 8/9/10. QUALIFIERS: responsibility of Hillsborough County Schools. DURATION/DATES: 6 weeks (June/July). EST. COST: $15. SCHOLARSHIPS: fee waivers. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Jon C. Snader, University of South Florida, PHY-342, Tampa, FL 33620 (813/974-4068).

UNIVERSITY OF SOUTH FLORIDA. MATH LECTURE SERIES. COURSES: lectures in mathematics by professionals in the field can be arranged at local schools. ENROLLMENT: 8,000. GRADE(S): 5-12. QUALIFIERS: school should contact Dr. Riggs to make arrangements. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: none. CONTACT: Dr. Carl Riggs, University of South Florida, LLL-012, Tampa, FL 33620 (813/974-3603).

UNIVERSITY OF SOUTH FLORIDA. PINELLAS COUNTY FRONTIERS OF MODERN SCIENCE. COURSES: chemistry; physics; computer science. ENROLLMENT: 60 (45-first year; 15-second year). GRADE(S): 10/11/12. QUALIFIERS: gifted; teacher recommendation; Pinellas County resident. DURATION/DATES: 6 weeks (6/17-7/29). EST. COST: $75. SCHOLARSHIPS: fee waivers based on need and $300 scholarships for minorities. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Jefferson C. Davis, Jr., University of South Florida, SCA-235, Tampa, FL 33620 (813/974-4068).

UNIVERSITY OF SOUTH FLORIDA. PINELLAS COUNTY MATHEMATICS AND SCIENCE PROGRAM. COURSES: mathematics; computer science; physics. ENROLLMENT: 60 (45-first year; 15-second year). GRADE(S): 8/9/10. QUALIFIERS: gifted; teacher recommendation. DURATION/DATES: 6 weeks (June/July). EST. COST: $70. SCHOLARSHIPS: fee waivers based on need and $300 scholarships for minorities. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Kenneth L. Pothoven, University of South Florida, PHY-342, Tampa, FL 33620 (813/974-4068).

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UNIVERSITY OF WEST FLORIDA. PANHANDLE CENTER OF EXCELLENCE IN MATHEMATICS, SCIENCE, COMPUTERS AND TECHNOLOGY. SCIENCE SEMINAR FOR SUPERIOR STUDENTS. COURSES: sociology; archaeology; psychology; political science; chemistry; biology; ecology; meteorology; anthropology; engineering (chemical, environmental, industrial and mechanical); medical science; mathematics; physics. ENROLLMENT: 100. GRADE(S): 11/12. QUALIFIERS: chosen by H.S. faculty on the basis of interest and ability. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: n/a. CONTACT: Dr. William P. Halpern, Panhandle Center of Excellence, The University of West Florida, Building 58, Room 001, Pensacola, FL 32514 (904/474-2741).

COMMUTER/RESIDENTIAL

FLORIDA INSTITUTE OF TECHNOLOGY. PROJECT EARTH. COURSES: environmental science; computer applications; statistics; ecology of the Southern Appalachians. ENROLLMENT: 20. GRADE(S): 11/12. QUALIFIERS: talented in science; teacher recommendation. DURATION/DATES: two 3-week sessions (6/13-7/1; 7/11-29). EST. COST: $900. SCHOLARSHIPS: yes, Florida residents only. APPLICATION DEADLINE: 5/15. CONTACT: Dr. Phillip Horton, Science Education Department, Florida Institute of Technology, 150 West University Boulevard, Melbourne, FL 32901 (305/768-8126).

STETSON UNIVERSITY. PRECOLLEGE PROGRAM FOR THE ACADEMICALLY TALENTED. COURSES: biology; physics; chemistry; social sciences; computer sciences; mathematics. ENROLLMENT: 10. GRADE(S): 11/12. QUALIFIERS: gifted/talented students with SAT 1000 and TSWE

45; letters of recommendation. DURATION/DATES: 8 weeks (6/12-8/5). EST. COST: $1,725. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/5. CONTACT: Dr. Mitchell G. Reddish, Box 8354, Stetson University, DeLand, FL 32720-3757 (904/734-4121, ext. 545 or 547).

RESIDENTIAL

FLORIDA STATE UNIVERSITY. SUMMER SCIENCE AND MATHEMATICS CAMP. RESEARCH/COURSES: discrete mathematics; several computer courses at different levels; biology; biochemistry; physics; science communication; independent research projects. ENROLLMENT: 50. GRADE(S): 11/12. QUALIFIERS: Florida residents; class rank; PSAT; SAT or equivalent scores; science and math background; teacher recommendation; student essay. DURATION/DATES: 6 weeks (6/12-7/22). EST. COST: $125 for books; transportation to and from Tallahassee. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/1. CONTACT: Dr. Patricia C. Hayward, 238 Conradi Building, Florida State University, Tallahassee, FL 32306 (904/644-6747).

STETSON UNIVERSITY. STETSON ACADEMIC TALENT PROGRAM. COURSES: mathematics; computer science; biology; physics; chemistry; social sciences. ENROLLMENT: 35. GRADE(S): 8-11. QUALIFIERS: SAT Math 500+; SAT Verbal 430+; TSWE 35+ for verbal courses; letters of recommendation. DURATION/DATES: 3 weeks (6/26-7/16). EST. COST: $1,050. SCHOLARSHIPS: limited, based on need. APPLICATION DEADLINE: unknown. CONTACT: Dr. Mitchell G. Reddish, Box 8354, Stetson University, DeLand, FL 32720-3757 (904/734-4121, ext. 545).

UNIVERSITY OF CENTRAL FLORIDA. SUMMER SCHOLARS IN COMPUTER SCIENCE. RESEARCH/COURSES: introduction to computer science; ethics; communication. ENROLLMENT: 15. GRADE(S): first priority: seniors; second priority: juniors. QUALIFIERS: full-time students; at or above 95th percentile on standardized tests (PSAT, SAT, ACT, etc.) and/or be within the upper 5% of H.S. class. DURATION/DATES: 5 weeks (6/26-7/29). EST. COST: $1,200. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/1. CONTACT: Dr. Paul R. McQuilkin, Associate Dean, Undergraduate Studies, University of Central Florida, P.O. Box 25000, Orlando, FL 32816 (305/275-2691).

UNIVERSITY OF CENTRAL FLORIDA. SUMMER SCHOLARS IN ENGINEERING. RESEARCH/COURSES: introduction to engineering; engineering ethics; communication. ENROLLMENT: 15. GRADE(S): first priority: seniors; second priority: juniors. QUALIFIERS: full-time students; at or above 95th percentile on standardized tests (PSAT, SAT, ACT, etc.) and/or be within the upper 5% of H.S. class. DURATION/DATES: 5 weeks (6/26-7/29). EST. COST: $1,200. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/1. CONTACT: Dr. Paul R. McQuilkin, Associate Dean, Undergraduate Studies, University of Central Florida, P.O. Box 25000, Orlando, FL 32816 (305/275-2691).

UNIVERSITY OF FLORIDA. 30TH ANNUAL STUDENT SCIENCE TRAINING PROGRAM: A COMPONENT OF THE FLORIDA GOVERNOR'S SUMMER PROGRAM. RESEARCH/COURSES: focus is individual research participation with University of Florida faculty; multidisciplinary (science; engineering; medicine); course work available in statistics and computers. ENROLLMENT: 168. GRADE(S): 11. QUALIFIERS: nomination; forms; transcript; letters of recommendation; essay; standardized test scores. DURATION/DATES: 8 weeks (6/12-8/6). EST. COST: $1,700 (essential expenses); $100 (activity fee). SCHOLARSHIPS: Florida students only; will assist out-of-state students in obtaining financial aid. APPLICATION DEADLINE: 3/1. CONTACT: Dr. Elisabeth F. Abbott, Director, and Ms. Wendy B. Namack, Deputy Director, Florida Foundation for Future Scientists, 111 Norman Hall, University of Florida, Gainesville, FL 32611 (904/392-2310).

GEORGIA

COMMUTER

COLUMBUS COLLEGE. SCIENCE CHALLENGE FOR HIGH SCHOOL STUDENTS. RESEARCH/COURSES: environmental science (including analysis of physical, chemical, and biological variables in stream ecosystems); applications of computers, statistics, and report writing are also included. ENROLLMENT: 12-22. GRADE(S): 8-11. QUALIFIERS: grades; letter of student interest; letter of support from science teacher; evidence of science fair participation; previous participation in middle school gifted program--acceptance is made on individual assessments. DURATION/DATES: 5 to 6 weeks (July-August). EST. COST: $175-250. SCHOLARSHIPS: need and academic scholarships provided. APPLICATION DEADLINE: 5/31. CONTACT: George E. Stanton, Professor and Chairperson, Department of Biology, Columbus College, Columbus, GA 31993 (404/568-2065 or 67).

GEORGIA INSTITUTE OF TECHNOLOGY. FRESHMAN ENGINEERING WORKSHOP. RESEARCH/COURSES: engineering. ENROLLMENT: 35. GRADE(S): 7/8/9. QUALIFIERS: Black, Hispanic, American Indian; GPA 2.8. DURATION/DATES: 1 week (6/20-24). EST. COST: $25, transportation. SCHOLARSHIPS: no. APPLICATION DEADLINE: 5/1. CONTACT: Director of Special Programs, College of Engineering, Dean's Office, Georgia Institute of Technology, Atlanta, GA 30332 (404/894-3354).

GEORGIA INSTITUTE OF TECHNOLOGY. MINORITY INTRODUCTION TO ENGINEERING (MITE). RESEARCH/COURSES: engineering. ENROLLMENT: 75. GRADE(S): 11. QUALIFIERS: PSAT (50 verbal/55 math) or SAT (500 verbal/550 math); Black, Hispanic, American Indian; GPA 3.0. DURATION/DATES: two 1-week sessions (7/24-8/6). EST. COST: transportation only. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/1. CONTACT: Director of Special Programs, College of Engineering, Dean's Office, Georgia Institute of Technology, Atlanta, GA 30332 (404/894-3354).

GEORGIA INSTITUTE OF TECHNOLOGY. PRECOLLEGE ENGINEERING PROGRAM (PREP). RESEARCH/COURSES: engineering. ENROLLMENT: 70. GRADE(S): 10/11/12. QUALIFIERS: PSAT (50 verbal/55 math) or SAT (500 verbal/550 math); GPA 3.0. DURATION/DATES: 1 week (June). EST. COST: $275. SCHOLARSHIPS: no. APPLICATION DEADLINE: 4/1. CONTACT: Director of Special Programs, College of Engineering, Dean's Office, Georgia Institute of Technology, Atlanta, GA 30332 (404/894-3354).

GEORGIA STATE UNIVERSITY. PROGRAM FOR EXCELLENCE. COURSES: all 100 or 200-level courses in the College of Arts and Sciences. ENROLLMENT: 20-25 (but unlimited). GRADE(S): 12. QUALIFIERS: SAT; H.S. GPA of 3.0; recommendation and permission from guidance counselor. DURATION/DATES: academic year. EST. COST: $186 for one course, $346 for two (in-state). SCHOLARSHIPS: none. APPLICATION DEADLINE: 8/10. CONTACT: Coordinator, Program for Excellence, Admissions Office, Georgia State University, Atlanta, GA 30303-3085 (404/651-4029).

GEORGIA STATE UNIVERSITY. SUMMER SCHOLAR PROGRAM. COURSES: all 100 or 200-level courses in the College of Arts and Sciences, including astronomy, biology, chemistry, geology, physics, mathematics. ENROLLMENT: 20-25 (but unlimited). GRADE(S): 12. QUALIFIERS: 3.0 GPA in academic subjects; 1000 SAT (450 minimum on each section). DURATION/DATES: 8 weeks (6/15-8/15). EST. COST: $186 for one course, $346 for two (in-state). SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/15. CONTACT: Coordinator, Summer Scholar Program, Admissions Office, Georgia State University, University Plaza, Atlanta, GA 30303-3085 (404/651-4029).

WEST GEORGIA COLLEGE. SUPERIOR SOPHOMORE, GIFTED JUNIOR, AND SENIOR ENRICHMENT PROGRAM. COURSES: biology; chemistry; natural science; astronomy; geology; college algebra; trigonometry; calculus; computer science; psychology. ENROLLMENT: 25-40. GRADE(S): 11/12. QUALIFIERS: SAT/ACT scores; H.S. GPA; H.S. recommendation. DURATION/DATES: academic year and summer. EST. COST: $155/5-hour course. SCHOLARSHIPS: none. APPLICATION DEADLINE: 11 weeks prior to beginning of quarter. CONTACT: Patricia Hughes, Assistant to Vice President, West Georgia College, Carrollton, GA 30118 (404/836-6445).

COMMUTER/RESIDENTIAL

ARMSTRONG STATE COLLEGE. EARLY ADMISSION AND JOINT ENROLLMENT. COURSES: biology; chemistry; engineering; mathematics; physics. ENROLLMENT: 15. GRADE(S): 11/12. QUALIFIERS: GPA; SAT scores; principal or counselor recommendation; parent approval. DURATION/DATES: academic year and summer (8 to 10 weeks). EST. COST: $150/course (in-state); $430/course (out-of-state). SCHOLARSHIPS: none. APPLICATION DEADLINE: varies. CONTACT: Dr. William Megathlin, Armstrong State College, 11935 Abercorn Street, Savannah, GA 31419 (912/927-5384).

CLARK COLLEGE. ROWLAND/STANDARD OIL SUMMER PROGRAM. COURSES: math; English; computer science; engineering; problem solving in science. ENROLLMENT: 20. GRADE(S): 12. QUALIFIERS: 900+ SAT; 2.5+ GPA. DURATION/DATES: 8 weeks (June-July). EST. COST: none. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Om P. Puri, Chair, Physics Department, Clark College, Atlanta, GA 30314 (404/681-3080, x200).

GEORGIA COLLEGE. EARLY ADMISSION/JOINT ENROLLMENT. COURSES: all general education (core) courses. ENROLLMENT: 15. GRADE(S): 12. QUALIFIERS: 3.0 GPA, 900 SAT or 41 ACT; H.S. recommendation; parental consent. DURATION/DATES: academic year and two 4-week summer sessions (6/14-8/11). EST. COST: per course: $155 (commuting), $700 (residential); full load: $432 (commuting), $977 (residential). SCHOLARSHIPS: yes. APPLICATION DEADLINE: recommend 30 days prior to enrollment. CONTACT: Ms. Maryllis Wolfgang, Assistant Director of Admissions, Office of Admissions and Records, Georgia College, Milledgeville, GA 31601 (912/453-6285).

OGLETHORPE UNIVERSITY (ATLANTA, GEORGIA). NATIONAL COMPUTER CAMPS. COURSES: computer programming; computer science. ENROLLMENT: 50/week. GRADE(S): ages 8-18. QUALIFIERS: unknown. DURATION/DATES: 1 or more weeks (7/3-15). EST. COST: $415/week. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/10 or by special arrangement. CONTACT: Michael Zabinski, Ph.D., Director, National Computer Camps, P.O. Box 585, Orange, CT 06477 (203/795-9667). Programs also offered at Ursuline College (Cleveland, Ohio) and Loomis-Chaffee School (Windsor, Connecticut).

PIEDMONT COLLEGE. SCIENCE FOR HIGH SCHOOL STUDENTS. COURSES: mathematics; college algebra; trigonometry; calculus; general chemistry; general biology. ENROLLMENT: 10. GRADE(S): 12. QUALIFIERS: H.S. GPA; SAT. DURATION/DATES: 7 weeks (6/20-8/10). EST. COST: $518. SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Jodie L. Burton, Piedmont College, Demerest, GA 30535 (404/778-8033).

RESIDENTIAL

EMORY UNIVERSITY. SUMMER SCHOLARS. COURSES: concepts in physics and chemistry; intro to computer programming; intro to probability; statistics; intro astronomy. ENROLLMENT: 30-60. GRADE(S): 11. QUALIFIERS: H.S. grades; SAT/PSAT or ACT; recommendations. DURATION/DATES: 6 weeks (tentatively 6/27-8/8). EST. COST: $2,500. SCHOLARSHIPS: financial aid, based on need. APPLICATION DEADLINE: 5/3. CONTACT: Jean Jordan, Office of Admissions, Emory College, Atlanta, GA 30322 (404/727-6036).

MORRIS BROWN COLLEGE. SUMMER SCIENCE PROGRAM. COURSES: biology; chemistry; mathematics; critical thinking; computer science. ENROLLMENT: 25. GRADE(S): 12. QUALIFIERS: GPA; 3 letters of recommendation; interest in health professions; minority. DURATION/DATES: 6 weeks (6/21-7/31). EST. COST: none. SCHOLARSHIPS: tuition or academic. APPLICATION DEADLINE: unknown. CONTACT: Dr. M. A. Durojaiye, Biology Department/Health Professions, Morris Brown College, Atlanta, GA 30314 (404/525-7831, ext. 170).

HAWAII

RESIDENTIAL

UNIVERSITY OF HAWAII AT HILO. HAWAII-SSTP. RESEARCH/COURSES: calculus; physics. ENROLLMENT: 32. GRADE(S): 12. QUALIFIERS: PSAT (or SAT) scores; minimum 3.0 GPA for all science and mathematics courses since 9th grade; recommendations; essay. DURATION/DATES: 7 weeks (6/13-7/29). EST. COST: $1,000. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 3/30. CONTACT: Suk R. Hwang, Hawaii-SSTP, University of Hawaii at Hilo, 523 W. Lanikaula Street, Hilo, HI 96720 (808/961-9383).

IDAHO

RESIDENTIAL

UNIVERSITY OF IDAHO. JETS: INTRODUCTION TO ENGINEERING WORKSHOP. COURSES: engineering: computer-aided-drafting (CAD), engineering design process, human factors, economic analysis, programming language, robotics. ENROLLMENT: 100. GRADE(S): 11/12. QUALIFIERS: 3.0+ GPA; interest in science and mathematics; counselor or teacher recommendation. DURATION/DATES: 2 weeks (7/10-22). EST. COST: $300. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Wayne R. Hager, Assistant Dean, College of Engineering, University of Idaho, Moscow, ID 83843 (208/885-6438).

UNIVERSITY OF IDAHO AND UNIVERSITY OF ALASKA-SOUTHEAST. EXPEDITIONARY AND FIELD SCIENCE TRAINING PROGRAM, JUNEAU ICEFIELD, ALASKA. RESEARCH/COURSES: field science (environmental science, glaciology, geology, meteorology). ENROLLMENT: 15 H.S. students, plus undergraduates. GRADE(S): 11/12. QUALIFIERS: high ability senior H.S. students with some experience in mountain and outdoor living. DURATION/DATES: 8 weeks (7/1-8/24). EST. COST: $1950. SCHOLARSHIPS: limited. APPLICATION DEADLINE: 6/15. CONTACT: Dr. Maynard M. Miller, Director, Glaciological Institute, University of Idaho, Moscow, ID 83843 (208/882-1237).

ILLINOIS

COMMUTER

BRADLEY UNIVERSITY. INSTITUTE FOR GIFTED AND TALENTED YOUTH. COURSES: variety of accelerated math and science courses for elementary/junior high age students (e.g., biology). ENROLLMENT: 800. GRADE(S): varies. QUALIFIERS: identification as gifted/talented as determined by school district or Bradley University standards. DURATION/DATES: three 3-week sessions (6/6-7/22). EST. COST: $75/course. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/15. CONTACT: Dr. James H. Stronge, Director, Bradley University Institute for Gifted and Talented Youth, Bradley University, Westlake Hall, Peoria, IL 61625 (309/677-3181).

CHICAGO STATE UNIVERSITY. LIFE SCIENCE CAREERS FOR HIGH SCHOOL STUDENTS. RESEARCH: biological sciences. ENROLLMENT: 2. GRADE(S): 11/12. QUALIFIERS: strong academic record; teacher recommendations; interest in research. DURATION/DATES: 8 weeks (6/20-8/12). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/2. CONTACT: Dr. Anthony M. Garcy, Department of Biological Sciences, Chicago State University; 95th Street and King Drive, Chicago, IL 60628 (312/995-2199).

CHICAGO STATE UNIVERSITY. MINORITY HIGH SCHOOL STUDENT RESEARCH APPRENTICE PROGRAM. RESEARCH: biological sciences; chemistry; physics. ENROLLMENT: 2. GRADE(S): 11/12. QUALIFIERS: strong academic record; teacher recommendations; interest in research. DURATION/DATES: 8 weeks (6/20-8/12). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/2. CONTACT: Dr. Anthony M. Garcy, Department of Biological Sciences, Chicago State University, 95th Street and King Drive, Chicago, IL 60628 (312/995-2199).

ILLINOIS INSTITUTE OF TECHNOLOGY. COMPUTER MODELING OF MATH AND SCIENCE. COURSES: mathematics; physics; chemistry; BASIC. ENROLLMENT: 140. GRADE(S): 9/10/11. QUALIFIERS: recommendation; grades (at least B in algebra). DURATION/DATES: two 3-week sessions (6/27-8/4). EST. COST: $250. SCHOLARSHIPS: Chicago area public school students attend tuition-free; private school students must pay tuition. APPLICATION DEADLINE: 4/1. CONTACT: Professor Peter Y. Johnson, Chemistry Department, Illinois Institute of Technology, 33rd and Dearborn, Chicago, IL 60616 (312/567-3440).

SAINT XAVIER COLLEGE. SUMMER JUNIOR PROGRAM. COURSES: biology; chemistry; physics; mathematics; computer science. ENROLLMENT: 30. GRADE(S): 11. QUALIFIERS: 3.0 GPA; recommendation from counselor or gifted coordinator. DURATION/DATES: 5 to 10 weeks (6/1-8/12). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/15. CONTACT: Debora Pitlik, Saint Xavier College, 3700 West 103rd Street, Chicago, IL 60655 (312/779-3300, ext. 422).

COMMUTER/RESIDENTIAL

BRADLEY UNIVERSITY, ILLINOIS CENTRAL COLLEGE AND TRI-COUNTY URBAN LEAGUE, INC.. PROJECT OPPORTUNITY. COURSES: computer usage; mathematics; biology; chemistry; physics. ENROLLMENT: 30-40. GRADE(S): 10/11. QUALIFIERS: Black or Hispanic; minimum 2.25 GPA; letters of recommendation; written commitment of both student and parent to attend scheduled sessions. DURATION/DATES: October-July. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 10/7. CONTACT: Nickie Roberson, Co-Director, Bradley University, Peoria, IL 61625 (309/677-1000).

MacMURRAY COLLEGE. GAP (GIFTED ACCELERATED PROGRAM). COURSES: rhetoric; political science; precalculus mathematics; computer programming; psychology. ENROLLMENT: 75 (maximum 10-12/class). GRADE(S): 10/11/12. QUALIFIERS: IQ; SAT/PSAT achievement test scores; teacher recommendation. DURATION/DATES: 3 weeks (7/10-30). EST. COST: $500 (tuition); $320 (residence fees). SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/1. CONTACT: Office of Programs for the Gifted, MacMurray College, 447 E. College, Jacksonville, IL 62650 (217/245-6151, ext.270).

NORTHERN ILLINOIS UNIVERSITY. BIOLOGY/RESEARCH METHODS. COURSES: research methods; biology. ENROLLMENT: 40. GRADE(S): 10/11/12. QUALIFIERS: standardised test scores; recommendations by teachers; student essay question. DURATION/DATES: 1 week (July). EST. COST: $275. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1. CONTACT: Deborah Booth, College of Continuing Education, Northern Illinois University, Dekalb, IL 60115 (815/753-6913).

NORTHERN ILLINOIS UNIVERSITY. MATH/COMPUTER CAMP. RESEARCH/COURSES: mathematics; statistics; computer literacy; geometry. ENROLLMENT: 50. GRADE(S): 7/8/9. QUALIFIERS: teacher recommendation; student essay; achievement; SAT and/or IQ scores. DURATION/DATES: 1 week (6/12-18). EST. COST: $265. SCHOLARSHIPS: no. APPLICATION DEADLINE: 5/9. CONTACT: Deborah Booth, College of Continuing Education, Northern Illinois University, Dekalb, IL 60115 (815/753-6913).

SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE. CHALLENGE TO EXCELLENCE. COURSES: computer mathematics; logic; biological science; environmental science; creative problem solving. ENROLLMENT: 144. GRADE(S): 7-10. QUALIFIERS: achievement test scores (mathematics, science, language arts); IQ (if available). DURATION/DATES: 1 week for 7/8 grades and 1 week for 9/10 grades (6/18-7/1). EST. COST: $250. SCHOLARSHIPS: very limited. APPLICATION DEADLINE: 4/1. CONTACT: Dr. John McIntyre, Department of Curriculum, Instruction and Media, Southern Illinois University, Carbondale, IL 62901 (618/453-2727).

RESIDENTIAL

NORTHERN ILLINOIS UNIVERSITY. FIELD SCIENCE CAMP. RESEARCH/COURSES: geology; geography; meteorology. ENROLLMENT: 40. GRADE(S): 8/9. QUALIFIERS: teacher recommendation; student essay; achievement; SAT and/or IQ scores. DURATION/DATES: 1 week (7/17-23). EST. COST: $200. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 6/13. CONTACT: Deborah Booth, College of Continuing Education, Northern Illinois University, Dekalb, IL 60115 (815/753-6913).

NORTHWESTERN UNIVERSITY. NATIONAL HIGH SCHOOL INSTITUTE, ENGINEERING SCIENCE DIVISION. RESEARCH/COURSES: mathematics; chemistry; physics; biology; engineering; biomedical engineering. ENROLLMENT: 90. GRADE(S): 12. QUALIFIERS: gifted students with high PSAT or ACT scores; high rank in class; recommendations. DURATION/DATES: 5 weeks (7/3-8/6). EST. COST: $1,700. SCHOLARSHIPS: limited in number and size. APPLICATION DEADLINE: 5/1. CONTACT: Edwin C. Rossow, Department of Civil Engineering, Northwestern University, 2155 Sheridan Road, Evanston, IL 60201 (312/491-3453).

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN. JETS SUMMER PROGRAM. RESEARCH/COURSES: mathematics for engineering science and orientation to engineering careers, with laboratories in electrical and mechanical design. ENROLLMENT: 45. GRADE(S): 12. QUALIFIERS: completion of geometry, chemistry, trigonometry, and 3 years of English, with grades or class standing among the top 20%; PSAT, SAT or ACT. DURATION/DATES: 2 weeks (7/11-22). EST. COST: $350. SCHOLARSHIPS: up to one-half of cost. APPLICATION DEADLINE: 3/15. CONTACT: Paul E. Parker, University of Illinois, 1308 W. Green Street, Room 207, Urbana, IL 61801-2982 (217/333-2280).

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN. MATHEMATICS AND THE COMPUTER. RESEARCH AND COURSES: mathematics; computer science. ENROLLMENT: 20. GRADE(S): 10/11/12. QUALIFIERS: H.S. mathematics grades; teacher recommendations; student letters; standardised test scores. DURATION/DATES: 2 weeks (7/28-8/5). EST. COST: $200 (Illinois residents); $600 (others); final amount not yet determined. SCHOLARSHIPS: Illinois residents who are accepted receive $450 scholarship equivalent. APPLICATION DEADLINE: 5/1. CONTACT: Larry Dornhoff, Associate Professor, Department of Mathematics, University of Illinois, Urbana, IL 61801 (217/333-5565).

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN. MATHEMATICS SUMMER CAMP FOR GIFTED HIGH SCHOOL STUDENTS - CONVEX SETS AND COMBINATORICS. COURSES: mathematics. ENROLLMENT: 20. GRADE(S): 10/11/12. QUALIFIERS: standardized test scores; H.S. transcript; recommendation of H.S. teacher. DURATION/DATES: 2 weeks (7/24-8/5). EST. COST: $200 (residents); $600 (non-residents); final amount not yet determined. SCHOLARSHIPS: unknown. APPLICATION DEADLINE: 5/1. CONTACT: Hiram Paley, Department of Mathematics, 1409 West Green Street, University of Illinois at Urbana-Champaign, Urbana, IL 61801 (217/333-1716).

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN. MINORITY INTRODUCTION TO ENGINEERING (MITE). RESEARCH/COURSES: mathematics for engineers and computer orientation, engineering science and instrumentation. ENROLLMENT: 35. GRADE(S): 12. QUALIFIERS: PSAT, ACT or SAT; completed geometry and trigonometry; class rank. DURATION/DATES: 2 weeks (6/20-7/1). EST. COST: $25. SCHOLARSHIPS: none. APPLICATION DEADLINE: 3/15. CONTACT: Paul E. Parker, University of Illinois, 1308 W. Green Street, Room 207, Urbana, IL 61801-2982 (217/333-2280).

INDIANA

COMMUTER

EARLHAM COLLEGE. HIGH ABILITY PROGRAM FOR HIGH SCHOOL SENIORS. COURSES: biology; chemistry; geology; environmental studies; physics; astronomy; mathematics. ENROLLMENT: open. GRADE(S): 11/12. QUALIFIERS: top 15% of class or demonstration of exceptional ability and performance in a specific subject area; enrolled in college preparatory, academic curriculum; special application; H.S. transcript (with rank designation); recommendation from H.S. counselor. DURATION/DATES: academic year. EST. COST: $425. SCHOLARSHIPS: included in cost. APPLICATION DEADLINE: 15 days prior to term. CONTACT: Ann Runyon, Box 23, Earlham College, Richmond, IN 47374 [1-800/428-6958 (in Indiana 1-800/382-6906)].

FRANKLIN COLLEGE. RUNNING START. COURSES: biology; chemistry; physics; mathematics; computer; liberal arts. ENROLLMENT: 20. GRADE(S): 12. QUALIFIERS: recommendation of H.S. counselors. DURATION/DATES: academic year and summer. EST. COST: $50/course. SCHOLARSHIPS: none. APPLICATION DEADLINE: 8/15 (fall); 1/15 (spring). CONTACT: Nolan C. Cooper, Admissions Office, Franklin College, Franklin, IN 46131 (317/736-8441, ext. 200).

HANOVER COLLEGE. 12+ PROGRAM. COURSES: any entry level course. ENROLLMENT: unknown. GRADE(S): 12. QUALIFIERS: evidence of student's ability to do college level work concurrently with H.S. courses; student must be able to commute from home. DURATION/DATES: academic year. EST. COST: $300/course. SCHOLARSHIPS: each student receives a scholarship. APPLICATION DEADLINE: 8/1 (fall); 12/1 (spring). CONTACT: C. Eugene McLemore, Office of Admissions, Hanover College, Hanover, IN 47243 (812/866-2151).

INDIANA INSTITUTE OF TECHNOLOGY. FASTSTART. RESEARCH/COURSES: general chemistry and physics; mathematics; computer-aided design; computer programming. ENROLLMENT: 7. GRADE(S): 11/12. QUALIFIERS: application; teacher and/or principal recommendation; junior standing by term accepted. DURATION/DATES: academic year. EST. COST: $300/course. SCHOLARSHIPS: no. APPLICATION DEADLINE: two weeks prior to beginning of term. CONTACT: Dr. Stephen D. Rowe, Indiana Institute of Technology, 1600 E. Washington Boulevard, Fort Wayne, IN 46803 (219/422-5561, ext. 207).

WABASH COLLEGE. BRIDGE PROGRAM. COURSES: mathematics; biology; chemistry; English; creative arts. ENROLLMENT: 20/year for four years. GRADE(S): 9-12. QUALIFIERS: economically disadvantaged; working at ability level in 8th grade; potential desire to do college level work. DURATION/DATES: academic year and summer (two weeks). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: none. CONTACT: Daniel Drew, Bridge Program, Wabash College, Crawfordsville, IN 47933 (317/364-4301).

COMMUTER/RESIDENTIAL

BUTLER UNIVERSITY. EARLY ENTRANCE. RESEARCH/COURSES: biology; chemistry; physics; environmental studies; medical technology; pharmacy; actuarial science; computer science; mathematics. ENROLLMENT: varies. GRADE(S): 10/11/12. QUALIFIERS: college prep program; extraordinary achievement; recommendation. DURATION/DATES: academic year and summer. EST. COST: varies. SCHOLARSHIPS: yes (for academic achievement). APPLICATION DEADLINE: none. CONTACT: Steve Bushouse, Butler University, 4600 Sunset Avenue, Indianapolis, IN 46208 (317/283-9255).

EARLHAM COLLEGE. EXPLORE-A-COLLEGE. COURSES: various beginning college level. ENROLLMENT: 20-25/course. GRADE(S): 10/11/12. QUALIFIERS: 450V or 450M on PSAT/SAT or 90th percentile on standard achievement test; teacher recommendations. DURATION/DATES: 2 weeks (6/26-7/8). EST. COST: $550. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 6/3. CONTACT: Rebecca E. McDowell, Box 188-A, Earlham College, Richmond, IN 47374 [1-800/428-6958 (in Indiana 1-800/382-6906)].

TRI-STATE UNIVERSITY. EARLY ENTRANCE. COURSES: biology; chemistry; physics; college algebra; calculus; computer programming; composition; humanities; psychology. ENROLLMENT: varies. GRADE(S): 11/12. QUALIFIERS: 3.0 GPA; recommendation. DURATION/DATES: academic year and summer. EST. COST: varies. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 3/1; 6/1; 9/1; 12/1. CONTACT: Kim Robert Bryan, Director of Admissions, Tri-State University, Angola, IN 46703-0307 (219/665-4131).

RESIDENTIAL

BALL STATE UNIVERSITY. HONORS COLLEGE SUMMER PROGRAM. COURSES: chemistry; biology; psychology; architecture; business; speech; industrial technology. ENROLLMENT: 125/session (15-30/class). GRADE(S): 12. QUALIFIERS: 3.0 H.S. GPA; top 20% of H.S. class. DURATION/DATES: two 2-week sessions during summer. EST. COST: $240. SCHOLARSHIPS: all receive tuition waiver. APPLICATION DEADLINE: 6/15. CONTACT: Arno F. Wittig, Dean, Honors College, Ball State University, Muncie, IN 47306 (317/285-1024).

BALL STATE UNIVERSITY. STUDENT SCIENCE TRAINING (SST) RESEARCH FOR HIGH ABILITY HIGH SCHOOL STUDENTS: NUCLEAR RADIATION APPLICATIONS; SOLAR ENERGY APPLICATIONS AND MODELING; AND INVESTIGATIONS IN STELLAR ASTRONOMY. RESEARCH: physics; astronomy. ENROLLMENT: 15 (4-6/topic). GRADE(S): 10/11/12. QUALIFIERS: GPA; class rank; teacher recommendation. DURATION/DATES: 4 weeks (7/11-8/5); 6 weeks (6/27-8/5). EST. COST: $550 (4 weeks); $750 (6 weeks). SCHOLARSHIPS: yes, $250 to $400 per student pending a grant. APPLICATION DEADLINE: 4/20. CONTACT: Dr. David R. Ober, Department of Physics and Astronomy, Ball State University, Muncie, IN 47306 (317/285-8860).

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BALL STATE UNIVERSITY. STUDENT SCIENCE TRAINING (SST) WORKSHOPS FOR HIGH ABILITY HIGH SCHOOL STUDENTS: ANALOG AND DIGITAL ELECTRONICS; LASERS, HOLOGRAPHY, AND OPTICAL PHENOMENA; MEDICAL APPLICATIONS OF NUCLEAR RADIATION. COURSES: physics; engineering. ENROLLMENT: 70 (20-30/session). GRADE(S): 10/11/12. QUALIFIERS: GPA; class rank; teacher recommendation. DURATION/DATES: 6/20-7/1, Electronics; 7/4-8, Lasers and Holography; 7/11-15, Medical Radiation. EST. COST: $185/session plus room and board. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/20. CONTACT: Dr. David R. Ober, Department of Physics and Astronomy, Ball State University, Muncie, IN 47306 (317/285-8860).

INDIANA STATE UNIVERSITY. SUMMER HONORS SEMINAR. COURSES: physics; chemistry; archaeology; mathematics; health sciences; electronics; computer science; manufacturing and design. ENROLLMENT: 500. GRADE(S): 11. QUALIFIERS: upper 25% class rank. DURATION/DATES: three 2-week sessions (6/14-8/7). EST. COST: $195 (Indiana resident); $340 (out-of-state). SCHOLARSHIPS: upon completion (competitive). APPLICATION DEADLINE: 5/16. CONTACT: Allen D. Varner, Indiana State University, Instructional Services, Terre Haute, IN 47809 [812/237-2335 (Indiana); 800/551-1639 (out-of-state)].

*PURDUE UNIVERSITY. MITE (MINORITY INTRODUCTION TO ENGINEERING). COURSES: exposure to the various fields of engineering; outlining available opportunities for minority students. ENROLLMENT: 50-80. GRADE(S): 12. QUALIFIERS: PSAT scores; mathematics/science grades; teacher recommendation. DURATION/DATES: 2 weeks (7/10-22). EST. COST: travel. SCHOLARSHIPS: travel grants if needed. APPLICATION DEADLINE: 6/17. CONTACT: Marion W. Blalock, Director, Minority Engineering Programs, Room #214, ENAD, Purdue University, West Lafayette, IN 47907 (317/494-3974). *Planned, but not definite.

PURDUE UNIVERSITY, GIFTED EDUCATION RESOURCE INSTITUTE. PALS (PURDUE ACADEMIC AND LEADERSHIP SEMINARS). COURSES: biology; chemistry; microbiology. ENROLLMENT: 100. GRADE(S): 10/11. QUALIFIERS: minimum "B+" average (3.5/4.0 or 5.5/6.0); strong recommendation from a school official; high academic commitment. DURATION/DATES: 2 weeks (6/19-7/2). EST. COST: $600-650. SCHOLARSHIPS: partial scholarships available. APPLICATION DEADLINE: first-come, first-served basis until program is full. CONTACT: Ms. Leslie S. Rebhorn, Coordinator of Field Services, Purdue University, South Campus Courts - G, West Lafayette, IN 47907 (317/494-7241).

PURDUE UNIVERSITY, GIFTED EDUCATION RESOURCE INSTITUTE. PCCP (PURDUE COLLEGE CREDIT PROGRAM). COURSES: various University courses offered for 3 or 5 transferable college credits. ENROLLMENT: 75-100. GRADE(S): 10/11/12. QUALIFIERS: top 10% of class; minimum "B" average; strong recommendation from a school official. DURATION/DATES: 2 or 3 weeks (7/3-23 for 5 credits; 7/10-23 for 3 credits). EST. COST: $600-650, plus additional fee for out-of-state tuition. SCHOLARSHIPS: partial scholarships available. APPLICATION DEADLINE: first-come, first-served basis until program is full. CONTACT: Ms. Leslie S. Rebhorn, Coordinator of Field Services, Purdue University, South Campus Courts - G, West Lafayette, IN 47907 (317/494-7241).

PURDUE UNIVERSITY, GIFTED EDUCATION RESOURCE INSTITUTE. STAR (SEMINARS FOR THE TALENTED AND ACADEMICALLY READY). COURSES: physics; biology; chemistry; robotics. ENROLLMENT: 100/session. GRADE(S): 7/8/9. QUALIFIERS: participation in Midwest Talent Search or other regional Talent Search; SAT-V score 430+ and/or SAT-Q score 500+. DURATION/DATES: two 2-week sessions (6/12-25; 6/26-7/9). EST. COST: $600-650. SCHOLARSHIPS: partial scholarships available. APPLICATION DEADLINE: first-come, first-served basis until programs are full. CONTACT: Ms. Leslie S. Rebhorn, Coordinator of Field Services, Purdue University, South Campus Courts - G, West Lafayette, IN 47907 (317/494-7241).

ROSE-HULMAN INSTITUTE OF TECHNOLOGY. OPERATION CATAPULT. RESEARCH/COURSES: engineering; physical sciences; computer programming. ENROLLMENT: 72/session. GRADE(S): 12. QUALIFIERS: PSAT scores; rank in class; H.S. grades; recommendations from H.S. math/science teachers; male students only. DURATION/DATES: two 3-week sessions (6/12-7/1; 7/10-29). EST. COST: $800. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1. CONTACT: Dr. Noel E. Moore, Rose-Hulman Institute of Technology, Terre Haute, IN 47803-3999 (812/877-1511).

ROSE-HULMAN INSTITUTE OF TECHNOLOGY. THE NEW RETUPMOC. COURSES: computer science (PASCAL and PC assembly language). ENROLLMENT: 30. GRADE(S): 11/12. QUALIFIERS: academic record; strong mathematics and science background; previous programming experience; teacher recommendation; male students only. DURATION/DATES: two 2-week sessions (6/12-24 PASCAL; 6/26-7/8 PC assembly language). EST. COST: $550. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1. CONTACT: Dr. Cary Laxer, Department of Computer Science, Rose-Hulman Institute of Technology, 5500 Wabash Avenue, Terre Haute, IN 47803 (812/877-1511, ext. 429).

TRI-STATE UNIVERSITY. MINORITIES IN ENGINEERING. COURSES: engineering. ENROLLMENT: 30. GRADE(S): 12. QUALIFIERS: academic record; recommendations. DURATION/DATES: 1 week (6/26-7/1). EST. COST: $50. SCHOLARSHIPS: included in cost. APPLICATION DEADLINE: 6/1. CONTACT: Roger J. Hawks, Dean of Engineering, Tri-State University, Angola, IN 46703 (219/665-4188).

TRI-STATE UNIVERSITY. WOMEN IN ENGINEERING. COURSES: introduction to engineering. ENROLLMENT: 35/session. GRADE(S): 12. QUALIFIERS: academic record; recommendations. DURATION/DATES: three 1-week sessions (7/10-15; 7/17-22; 7/24-29). EST. COST: $50. SCHOLARSHIPS: included in cost. APPLICATION DEADLINE: 6/8. CONTACT: Roger J. Hawks, Dean of Engineering, Tri-State University, Angola, IN 46703 (219/665-4188).

TRI-STATE UNIVERSITY. WOMEN IN SCIENCE. RESEARCH/COURSES: physical and life sciences. ENROLLMENT: 30. GRADE(S): 10/11/12. QUALIFIERS: academic record; recommendation. DURATION/DATES: 1 week (7/10-15). EST. COST: $50. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 7/1. CONTACT: Ann Benson, Tri-State University, P.O. Box 307, Angola, IN 46703-0307 (219/665-4256).

UNIVERSITY OF NOTRE DAME. SUMMER PROGRAM IN ENGINEERING FOR HIGH SCHOOL WOMEN AND MINORITY STUDENTS. RESEARCH/COURSES: all areas; emphasis on engineering; FORTRAN computer programming. ENROLLMENT: 50-100. GRADE(S): 12. QUALIFIERS: 3 years of H.S. mathematics; either physics or chemistry; high rank in class. DURATION/DATES: two 3-week sessions (6/20-7/17; 7/11-28). EST. COST: $650 for fee, room and board. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/30. CONTACT: Dr. Jerry J. Marley, College of Engineering, University of Notre Dame, Notre Dame, IN 46556 (219/239-5530).

IOWA

COMMUTER

UNIVERSITY OF NORTHERN IOWA AND MALCOLM PRICE LABORATORY SCHOOL. PROGRAMS FOR TALENTED AND MOTIVATED MIDDLE SCHOOL STUDENTS. RESEARCH/COURSES: life, earth and physical science; mathematic investigations; computer programming. ENROLLMENT: 120. GRADE(S): 5-9. QUALIFIERS: ITBS/ITED; teacher recommendation. DURATION/DATES: 5 weeks

(6/8-7/10). EST. COST: $180 plus lab fee. SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Charles Moore, University of Northern Iowa, 19th and Campus, Cedar Falls, IA 50613 (319/273-2138).

RESIDENTIAL

IOWA STATE UNIVERSITY. CY-TAG (CHALLENGES FOR YOUTH - TALENTED AND GIFTED). COURSES: precalculus mathematics (SMPY Model); computer science (PASCAL); physical science; biotechnology; expository writing; French. ENROLLMENT: 160. GRADE(S): 8/9. QUALIFIERS: 500+ SAT/M or 430+ SAT/V when test taken in seventh grade; exact criterion depends upon course. DURATION/DATES: two 3-week sessions (6/18-7/10; 7/16-8/7). EST. COST: $750. SCHOLARSHIPS: yes, merit and need based. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Lynn Glass, N 171 Lagomarcino Hall, Iowa State University, Ames, IA 50011-3190 (515/294-4156). Additional contact: Dr. Camilla Benbow, W 169 Lagomarcino Hall, Iowa State University, Ames, IA 50011-3180.

UNIVERSITY OF DUBUQUE. SUMMER EXPLORATION OF THE ENVIRONMENT IN DUBUQUE (SEED). COURSES: environmental field studies (Mississippi River focus). ENROLLMENT: 30. GRADE(S): 11/12. QUALIFIERS: academic record, H.S. science teacher's recommendation. DURATION/DATES: 3 weeks (7/10-29). EST. COST: $575. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/25. CONTACT: Robert M. Miller, Department of Biology, University of Dubuque, Dubuque, IA 52001 (319/589-3143).

UNIVERSITY OF IOWA. SECONDARY STUDENT TRAINING PROGRAM. RESEARCH: all areas of research (medicine; dentistry; pharmacy; engineering; computer science; biological, physical and/or social science). ENROLLMENT: 100. GRADE(S): 10/11/12. QUALIFIERS: essay; academic record, letters of recommendation. DURATION/DATES: 6- and 8- week programs (6/6-7/29; 6/20-7/29). EST. COST: to be announced later. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/20. CONTACT: Edward L. Pizzini, Iowa-SSTP, 450 Van Allen Hall, The University of Iowa, Iowa City, IA 52242 (319/335-1173).

KANSAS

COMMUTER/RESIDENTIAL

KANSAS STATE UNIVERSITY, WICHITA STATE UNIVERSITY, UNIVERSITY OF KANSAS, UNIVERSITY OF MISSOURI, UNIVERSITY OF NEBRASKA/OMAHA. MID-AMERICA CONSORTIUM FOR ENGINEERING AND SCIENCE ACHIEVEMENT (MACESA). RESEARCH/COURSES: math and science enrichment; self-concept; field trips and speakers; math and science projects. ENROLLMENT: 247. GRADE(S): 9-12. QUALIFIERS: interest in engineering-related careers; academic achievement; teacher recommendation; essay. DURATION/DATES: academic year and 6/12-25 during summer. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/1. CONTACT: Karen Hummel, Director, MACESA, 144 Durland Hall, Kansas State University, Manhattan, KS 66506 (913/532-5949).

PITTSBURG STATE UNIVERSITY. SUMMIT - SUPERIOR AND UNIQUE METHODS OF MOTIVATION FOR THE INTELLECTUALLY TALENTED. COURSES: plastics technology; computer science; computer art; mythology; leadership; field biology; advanced mathematics; creative writing; electronic music. ENROLLMENT: unknown. GRADE(S): 6-9. QUALIFIERS: 97th+ percentile on standard achievement tests; 430+ SAT/V when test taken in 7th grade. DURATION/DATES: 2 weeks (6/20-7/1). EST. COST: $495 (residential); $375 (commuter). SCHOLARSHIPS: limited, need-based. APPLICATION DEADLINE: 4/29. CONTACT: Paula York, SUMMIT Coordinator, Division of Continuing Studies, Pittsburg State University, Pittsburg, KS 66762 (316/231-7000, ext. 4179).

UNIVERSITY OF KANSAS. MIDWESTERN COMPUTER CAMP. COURSES: computer programming and computer science (beginning, intermediate and advanced topics). ENROLLMENT: 28/session (beginners); 14/session (others). GRADE(S): 7-12. QUALIFIERS: intermediate and advanced sessions require knowledge of the fundamentals of BASIC programming. DURATION/DATES: several 1-week sessions (June/July). EST. COST: beginner $225 (residential), $160 (commuting); others $240 (residential), $180 (commuting). SCHOLARSHIPS: none. APPLICATION DEADLINE: none. CONTACT: Herbert Harris, Computer Center, University of Kansas, Lawrence, KS 66045 (913/864-0100).

RESIDENTIAL

UNIVERSITY OF KANSAS, SCHOOLS OF ENGINEERING AND BUSINESS. INROADS SUMMER PROGRAM: PRECOLLEGE MINORITY ENGINEERING PROGRAM. COURSES: English 101; college level mathematics (precollege math course taken according to either business or engineering). ENROLLMENT: 20. GRADE(S): 12. QUALIFIERS: minority student within the Greater Kansas City area - InRoads Program. DURATION/DATES: 8 weeks (June/July). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: early April. CONTACT: Florence Boldridge, SCoRMEBE Director, Learned Hall, Fourth Floor, University of Kansas, Lawrence, KS 66045 (913/864-3620).

KENTUCKY

COMMUTER

THOMAS MORE COLLEGE. EARLY ADMISSIONS PROGRAM. COURSES: basic chemistry; general biology; general physics; computer science. ENROLLMENT: varies. GRADE(S): 12. QUALIFIERS: completed jr. year of H.S.; completed 3 units in English, 2 units each in mathematics, science, and history; overall GPA of 3.5. DURATION/DATES: academic year and 6-week summer session. EST. COST: $90/one course; additional course $185/credit hour. SCHOLARSHIPS: none. APPLICATION DEADLINE: 8/15 (fall); 12/15 (spring); 5/15 (summer). CONTACT: Suzanne Sewell, Admissions Counselor, Office of Admissions, Thomas More College, Crestview Hills, KY 41017 (606/344-3444).

COMMUTER/RESIDENTIAL

TRANSYLVANIA UNIVERSITY. SCIENCE AND TECHNOLOGY CAMP. RESEARCH/COURSES: all areas of science. ENROLLMENT: 50. GRADE(S): 11. QUALIFIERS: H.S. academic performance; recommendation from teacher or counselor. DURATION/DATES: 2 weeks (7/10-22). EST. COST: $600. SCHOLARSHIPS: approximately 50%. APPLICATION DEADLINE: 4/15. CONTACT: Dr. James E. Miller, Head, Computer Science Program, Transylvania University, 300 North Broadway, Lexington, KY 40508 (606/233-8155).

RESIDENTIAL

BEREA COLLEGE. CHALLENGE '88. RESEARCH/COURSES: wildlife biology; mathematics (theoretical structures in computer science). ENROLLMENT: 20/course. GRADE(S): 10/11. QUALIFIERS: 3.0 GPA; B or better in H.S. math and biology course; financial need. DURATION/DATES: 4 weeks (6/13-7/8). EST. COST: $250. SCHOLARSHIPS: full aid if needed. APPLICATION DEADLINE: 5/15. CONTACT: Charles E. Morgan, CPO 2344, Berea College, Berea, KY 40404 (606/986-9341, ext. 5082).

CENTRE COLLEGE. SENIOR SCHOLARS. COURSES: computers in chemistry and physics; computers and mathematics; 3 other non-science courses. ENROLLMENT: 55-60. GRADE(S): 12. QUALIFIERS: strong academic record in a college preparatory program; 2 years algebra; 1 year geometry; 1 year chemistry or physics. DURATION/DATES: 3 weeks (6/5-7/1). EST. COST: $725. SCHOLARSHIPS: financial aid up to full cost is available. APPLICATION DEADLINE: 5/2. CONTACT: Preston Miles, Centre College, Danville, KY 40422 (606/236-5211).

LOUISIANA

COMMUTER

UNIVERSITY OF NEW ORLEANS. GEOLOGY AND GEOPHYSICS SUMMER MINORITY PROGRAM. COURSES: geology; geophysics. ENROLLMENT: 20. GRADE(S): 11/12. QUALIFIERS: H.S. grades; letters of recommendation. DURATION/DATES: 3 weeks (June). EST. COST: none. SCHOLARSHIPS: all students receive $200 stipend. APPLICATION DEADLINE: 5/13. CONTACT: Dr. Louis A. Fernandez, College of Sciences, University of New Orleans, New Orleans, LA 70148 (504/286-6563).

UNIVERSITY OF NEW ORLEANS. SUMMER HONORS. COURSES: freshman level courses in mathematics; geology; physics; chemistry; biology; computer science. ENROLLMENT: 40. GRADE(S): 11. QUALIFIERS: B average in H.S. courses; composite ACT score of 24 or higher. DURATION/DATES: 6 weeks (6/13-7/30). EST. COST: $437. SCHOLARSHIPS: approximately 10 at $350. APPLICATION DEADLINE: 5/1. CONTACT: Robert E. Roemer, University Honors Program, University of New Orleans, New Orleans, LA 70148 (504/286-7008).

COMMUTER/RESIDENTIAL

LOUISIANA STATE UNIVERSITY. LSU MINI-COURSES FOR GIFTED AND HIGH-ACHIEVING STUDENTS. RESEARCH/COURSES: mathematics from pre-algebra to calculus; chemistry; biology; botany; biochemistry; astronomy; marine biology; veterinary medicine; ecology; genetic engineering; geology; engineering. ENROLLMENT: 550. GRADE(S): 9-12. QUALIFIERS: must have B+ average or above or be classified as gifted (130 IQ minimum) or be recommended by school personnel. DURATION/DATES: academic year and two 3-week summer sessions (6/12-7/2; 7/10-30). EST. COST: $650 (residential); $65 (course). SCHOLARSHIPS: limited. APPLICATION DEADLINE: Spring. CONTACT: Janet Sheldon, 177 Pleasant Hall, Louisiana State University, Baton Rouge, LA 70803-1520 (504/388-6621 or 1-800/CALL-LSU, ext. 6621).

McNEESE STATE UNIVERSITY. GOVERNOR'S PROGRAM FOR GIFTED CHILDREN. RESEARCH/COURSES: mathematics; physics; computer science; astronomy; philosophy; composition; humanities; art; music; drama; debate. ENROLLMENT: 100. GRADE(S): 6-10. QUALIFIERS: intellectual ability; standardized test scores. DURATION/DATES: 7 weeks (6/5-7/22). EST. COST: $950 (includes room and board, weekends included). SCHOLARSHIPS: yes. APPLICATION DEADLINE: 3/16. CONTACT: George Middleton, Ph.D., Director, Governor's Program for Gifted Children, McNeese State University, Lake Charles, LA 70609 (318/475-5446 or 318/474-9094).

TULANE UNIVERSITY. PROJECT TALENT. COURSES: science; mathematics; engineering; computer sciences; biology; humanities. ENROLLMENT: 50. GRADE(S): 7-12. QUALIFIERS: strong GPA (A or B average); gifted certification; teacher recommendations; interview; SAT/ACT scores, if available. DURATION/DATES: academic year and 4 weeks during summer. EST. COST: $150/4-credit course. SCHOLARSHIPS: yes (Duke Talent Scholarship). APPLICATION DEADLINE: 12/1 (spring); 8/1 (fall); 5/1 (summer). CONTACT: Ms. Lynell Cadray, Program Coordinator, Tulane University, Office of Undergraduate Admissions, Gibson Hall, New Orleans, LA 70118 (504/865-5178).

RESIDENTIAL

LOUISIANA STATE UNIVERSITY. RECRUITMENT INTO ENGINEERING OF HIGH ABILITY MINORITY STUDENTS (REHAMS 1). COURSES: mathematics; computer science; English; engineering projects; off-shore field trip; career guidance. ENROLLMENT: 20. GRADE(S): 12. QUALIFIERS: H.S. mathematics and science grades; ACT or SAT scores; mathematics or science teacher's recommendation; minority status. DURATION/DATES: 4 weeks (6/5-7/2). EST. COST: weekend meals; transportation. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/30. CONTACT: Tammie Y. Forbes, College of Engineering, Louisiana State University, Baton Rouge, LA 70803 (504/388-5708 or 5701).

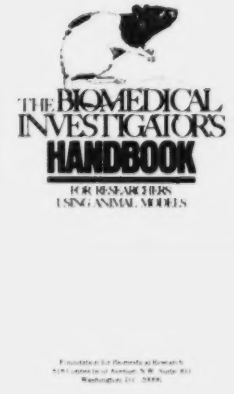
LOUISIANA STATE UNIVERSITY. RECRUITMENT INTO ENGINEERING OF HIGH ABILITY MINORITY STUDENTS (REHAMS 2). COURSES: mathematics and English; participants are enrolled in LSU as full-time students. ENROLLMENT: 20. GRADE(S): precollege freshmen. QUALIFIERS: H.S. mathematics and science grades; ACT or SAT scores; admission to LSU; engineering as a choice of major; minority status. DURATION/DATES: 8 weeks (6/5-8/1). EST. COST: weekend meals; application fees for LSU admission and housing. SCHOLARSHIPS: tuition, room and board for program. APPLICATION DEADLINE: 4/30. CONTACT: Tammie Y. Forbes, College of Engineering, Louisiana State University, Baton Rouge, LA 70803 (504/388-5708 or 5701).

MAINE

COMMUTER

COLBY COLLEGE. EDUCATIONAL OPPORTUNITIES FOR HIGH SCHOOL SENIORS. COURSES: mathematics (calculus, linear algebra); biology; chemistry; geology; astronomy; physics. ENROLLMENT: varies. GRADE(S): 11/12. QUALIFIERS: transcript; interview; recommendation from H.S. in the greater Waterville area. DURATION/DATES: academic year. EST. COST: tuition is waived. SCHOLARSHIPS: full tuition waiver for all students admitted to program. APPLICATION DEADLINE: 8/1 (fall); 12/1 (spring). CONTACT: Thomas Kopp, Associate Dean of Admissions, Colby College, Mayflower Hill Drive, Waterville, ME 04901 (207/872-3168).

Guide to Animal Research



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UNIVERSITY OF MAINE. HIGH SCHOOL STUDENT ENROLLMENT PROGRAM. COURSES: all courses for which student is prepared. ENROLLMENT: 20. GRADE(S): 12. QUALIFIERS: prior academic preparation and performance; teacher recommendations. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: prior to beginning of semester. CONTACT: William Munsey, Admissions Office, Chadbourne Hall, University of Maine, Orono, ME 04469 (207/581-1561).

UNIVERSITY OF MAINE AT FORT KENT. HIGH SCHOOL SPECIAL PROGRAM. COURSES: biology; algebra; physics; chemistry; precalculus; calculus; geology; statistics. ENROLLMENT: 10. GRADE(S): 12. QUALIFIERS: good academic standing. DURATION/DATES: academic year and summer. EST. COST: tuition waiver for 3-4 credits; additional courses $49/credit hour. SCHOLARSHIPS: approximately 10. APPLICATION DEADLINE: beginning semester. CONTACT: Jerry Nadeau, Director of Admissions, University of Maine at Fort Kent, Pleasant Street, Fort Kent, ME 04743 (207/834-3162, ext. 135 or 136).

UNIVERSITY OF MAINE AT PRESQUE ISLE. PRECOLLEGE EXPERIENCE PROGRAM. COURSES: algebra; precalculus; calculus; statistics; biology; chemistry; physics; geology; computer science. ENROLLMENT: 10/semester. GRADE(S): 11/12. QUALIFIERS: rank in top 10% of H.S. class; recommendation and approval of guidance director, principal, parent/guardian. DURATION/DATES: academic year. EST. COST: tuition waiver for 3-4 credit hours; additional courses $49/credit hour. SCHOLARSHIPS: limit of 10. APPLICATION DEADLINE: before beginning of program. CONTACT: Dr. Thomas Clayton, Vice President of Academic Affairs, University of Maine at Presque Isle, 181 Main Street, Presque Isle, ME 04769 (207/764-0311).

RESIDENTIAL

THE JACKSON LABORATORY. SUMMER STUDENT PROGRAM. RESEARCH: mammalian genetics. ENROLLMENT: 12. GRADE(S): 12. QUALIFIERS: academic record; teacher recommendations; interest in science; aptitude for working independently. DURATION/DATES: 8 weeks (6/19-8/16). EST. COST: $1,500. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 3/31. CONTACT: Mr. Robert Shea, The Jackson Laboratory, 600 Main Street, Bar Harbor, ME 04609-0800 (207/288-3371, ext. 253).

MARYLAND

COMMUTER

CAPITOL COLLEGE. CONCURRENT ENROLLMENT PROGRAM. COURSES: computer engineering technology; electronics engineering technology; optoelectronics engineering technology; telecommunications engineering technology. ENROLLMENT: varies. GRADE(S): 11/12. QUALIFIERS: GPA; H.S. recommendations. DURATION/DATES: academic year. EST. COST: $112/credit. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/1. CONTACT: Dianne Veenstra, Capitol College, 11301 Springfield Road, Laurel, MD 20708 (301/953-3200).

GEORGE WASHINGTON UNIVERSITY. SCIENCE AND ENGINEERING APPRENTICE PROGRAM (SEAP). See complete listing in District of Columbia section.

HOOD COLLEGE. HOOD START. COURSES: biology; chemistry; environmental studies; physics; astronomy; computer science; survey of mathematics; discrete mathematics; differential calculus. ENROLLMENT: 10. GRADE(S): 11/12. QUALIFIERS: class rank; GPA; inteview; essay; recommendation. DURATION/DATES: academic year and summer. EST. COST: $125/credit hour. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/1 (summer); 8/1 (fall); 12/1 (spring). CONTACT: Carolyn Lewis, Admissions Office, Hood College, Frederick, MD 21701 (301/663-3131, ext. 235).

MARYLAND SUMMER CENTERS FOR THE GIFTED AND TALENTED. CENTER FOR AQUATIC STUDIES, NATIONAL AQUARIUM, BALTIMORE. COURSES: aquatic biology. ENROLLMENT: 100 (20/week). GRADE(S): 5-6. QUALIFIERS: national test scores; teacher recommendation; essay; Maryland resident. DURATION/DATES: five 1-week programs (June-August). EST. COST: $50. SCHOLARSHIPS: yes, need based. APPLICATION DEADLINE: 2/14. CONTACT: Maryland Summer Centers for the Gifted and Talented, Maryland State Department of Education, 200 West Baltimore Street, Baltimore, MD 21201 (301/333-2359 or 1910).

MARYLAND SUMMER CENTERS FOR THE GIFTED AND TALENTED. CENTER FOR SCIENCE STUDIES, MARYLAND SCIENCE CENTER. COURSES: physics; learning with logo; light and photography; observational astronomy; mechanical marvels; Farady's lab (parents participate with students). ENROLLMENT: 390. GRADE(S): 4-6. QUALIFIERS: national test scores; teacher recommendation; essay; Maryland resident. DURATION/DATES: six 1-week programs (June-August). EST. COST: $50. SCHOLARSHIPS: yes, need based. APPLICATION DEADLINE: 2/14. CONTACT: Maryland Summer Centers for the Gifted and Talented, Maryland State Department of Education, 200 West Baltimore Street, Baltimore, MD 21201 (301/333-2359 or 1910).

SAINT MARY'S COLLEGE OF MARYLAND. CONCURRENT ENROLLMENT PROGRAM. COURSES: biology; chemistry; physics; natural science. ENROLLMENT: 16+/semester. GRADE(S): 12 (sometimes 11). QUALIFIERS: H.S. recommendations; GPA. DURATION/DATES: academic year. EST. COST: $60/credit hour plus fees. SCHOLARSHIPS: yes, 16 to St. Mary's County students designated as "Charlotte Hall Fellows". APPLICATION DEADLINE: unknown. CONTACT: Michael L. Berger, Division of Human Development, St. Mary's College of Maryland, St. Mary's City, MD 20686 (301/862-0337 or 8).

UNIVERSITY OF MARYLAND. BOTANY TRAINING PROGRAM FOR HIGH ABILITY JUNIOR AND SENIOR HIGH SCHOOL STUDENTS. RESEARCH/COURSES: botany. ENROLLMENT: varies. GRADE(S): 8-11. QUALIFIERS: top 5% in class; GPA; recommendation by science teacher; demonstrated interest in area. DURATION/DATES: 6 weeks (tentatively 7/18-8/31). EST. COST: variable. SCHOLARSHIPS: yes. APPLICATION DEADLINE: none. CONTACT: Dr. Linda R. Berg, Department of Botany, H. J. Patterson Hall, University of Maryland, College Park, MD 20742 (301/454-3812).

COMMUTER/RESIDENTIAL

JOHNS HOPKINS UNIVERSITY. CENTER FOR THE ADVANCEMENT OF ACADEMICALLY TALENTED YOUTH (CTY). COURSES: science, mathematics, and humanities offered at H.S. through university levels. ENROLLMENT: 2,800. GRADE(S): ages 12-16. QUALIFIERS: science and mathematics program SAT-M 500+ and SAT-M + SAT-V 930+ at ages 12-13. DURATION/DATES: two 3-week sessions (6/26-7/15; 7/17-8/6). EST. COST: $1,200/3-week session. SCHOLARSHIPS: yes. APPLICATION DEADLINE: April. CONTACT: Dr. Sharon Higham, Director of Academic Programs, The Johns Hopkins University/CTY, 34th and Charles Streets, Baltimore, MD 21218 (301/338-8427).

MARYLAND SUMMER CENTERS FOR THE GIFTED AND TALENTED. CENTER FOR ARCHEOLOGICAL RESEARCH. RESEARCH/COURSES: archaeology in Southern Maryland and Baltimore County. ENROLLMENT: 80. GRADE(S): 9-12. QUALIFIERS: national test scores; teacher recommendation; essay; Maryland resident. DURATION/DATES: one 2-week residential program and one 2-week non-residential program during summer. EST. COST: $325. SCHOLARSHIPS: yes, need based. APPLICATION DEADLINE: 2/14. CONTACT: Maryland Summer Centers for the Gifted and Talented, Maryland State Department of Education, 200 West Baltimore Street, Baltimore, MD 21201 (301/333-2359 or 1910).

TOWSON STATE UNIVERSITY. COLLEGE IN ESCROW. COURSES: biology; chemistry; computer sciences; physical science; mathematics; physics. ENROLLMENT: varies (unlimited). GRADE(S): 12. QUALIFIERS: B average; recommendation of H.S. counselor; personal interview at least a month prior to beginning of semester. DURATION/DATES: academic year and summer. EST. COST: $60/credit hour, plus fees. SCHOLARSHIPS: yes, covering tuition for one course/semester. APPLICATION DEADLINE: varies. CONTACT: Carolyn Harriger, College of Continuing Studies, Towson State University, Towson, MD 21204 (301/321-2471).

UNIVERSITY OF MARYLAND. SUMMER STUDY IN ENGINEERING PROGRAM. COURSES: engineering subjects. ENROLLMENT: 50. GRADE(S): 11. QUALIFIERS: 3.0 GPA or better; PSAT/SAT score; mathematics grades B or better. DURATION/DATES: 6 weeks (July/August). EST. COST: $500. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/20. CONTACT: College of Engineering, Student Affairs Office, University of Maryland, College Park, MD 20742 (301/454-2421).

RESIDENTIAL

MARYLAND SUMMER CENTERS FOR THE GIFTED AND TALENTED. CENTER FOR CHESAPEAKE BAY STUDIES. RESEARCH/COURSES: bay ecology. ENROLLMENT: 108 (18/class). GRADE(S): 7-12. QUALIFIERS: national test scores; teacher recommendation; essay; Maryland resident. DURATION/DATES: six 2-week sessions (June-August); one session for senior high, five sessions for junior high. EST. COST: $325. SCHOLARSHIPS: yes, need based. APPLICATION DEADLINE: 2/14. CONTACT: Maryland Summer Centers for the Gifted and Talented, Maryland State Department of Education, 200 West Baltimore Street, Baltimore, MD 21201 (301/333-2359 or 1910).

MARYLAND SUMMER CENTERS FOR THE GIFTED AND TALENTED. CENTER FOR ENVIRONMENTAL EXPERIENCES: LIVING WITH THE LAND. RESEARCH/COURSES: ecology from the mountains to the wetlands. ENROLLMENT: 24. GRADE(S): 9-12. QUALIFIERS: national test scores; teacher recommendation; essay; Maryland resident. DURATION/DATES: 2 weeks (July/August). EST. COST: $325. SCHOLARSHIPS: yes, need based. APPLICATION DEADLINE: 2/14. CONTACT: Maryland Summer Centers for the Gifted and Talented, Maryland State Department of Education, 200 West Baltimore Street, Baltimore, MD 21201 (301/333-2359 or 1910).

MARYLAND SUMMER CENTERS FOR THE GIFTED AND TALENTED. CENTER FOR MATHEMATICS AND TECHNOLOGY, WESTERN MARYLAND COLLEGE. RESEARCH/COURSES: mathematics; computers; economics. ENROLLMENT: 405. GRADE(S): 5-12. QUALIFIERS: national test scores; teacher recommendation; essay; Maryland resident. DURATION/DATES: three 2-week sessions (June-August); one session for senior high, one session for junior high, and one session for middle school. EST. COST: $325. SCHOLARSHIPS: yes, need based. APPLICATION DEADLINE: 2/14. CONTACT: Maryland Summer Centers for the Gifted and Talented, Maryland State Department of Education, 200 West Baltimore Street, Baltimore, MD 21201 (301/333-2359 or 1910).

MARYLAND SUMMER CENTERS FOR THE GIFTED AND TALENTED. CENTER FOR SPACE SCIENCE TECHNOLOGY, GODDARD SPACE FLIGHT CENTER. RESEARCH/COURSES: physical science and space engineering internships for 11th and 12th graders; introduction to space sciences for 9th and 10th graders. ENROLLMENT: 24/session. GRADE(S): 9-12. QUALIFIERS: national test scores; teacher recommendation; essay; Maryland resident. DURATION/DATES: two 2-week programs (7/11-8/5). EST. COST: $325. SCHOLARSHIPS: yes, need based. APPLICATION DEADLINE: 2/14. CONTACT: Maryland Summer Centers for the Gifted and Talented, Maryland State Department of Education, 200 West Baltimore Street, Baltimore, MD 21201 (301/333-2359 or 1910).

UNITED STATES NAVAL ACADEMY. NAVAL ACADEMY SUMMER SEMINAR. COURSES: physics; chemistry; oceanography; computer science; mathematics. ENROLLMENT: 300/session. GRADE(S): 12. QUALIFIERS: PSAT minimum 60 verbal, 67 math; students with above scores are mailed applications in early April. DURATION/DATES: two consecutive 1-week sessions (6/5-10 & 6/12-17). EST. COST: $100. SCHOLARSHIPS: none. APPLICATION DEADLINE: 4/25. CONTACT: LT Rowley Molina, USN, Candidate Guidance Office, U.S. Naval Academy, Annapolis, MD 21402 (1-800/638-9156).

WESTERN MARYLAND COLLEGE. SUMMER SCIENCE INSTITUTE. COURSES: biology. ENROLLMENT: 60. GRADE(S): 9-12. QUALIFIERS: teacher recommendations; grades. DURATION/DATES: two 1-week sessions (8/7-13; 8/14-20). EST. COST: $185. SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/30. CONTACT: Michael M. Brown, Biology Department, Western Maryland College, Westminster, MD 21157 (301/848-7000).

MASSACHUSETTS

COMMUTER

BOSTON COLLEGE. VISITING STUDENTS. COURSES: physics; mathematics. ENROLLMENT: 2. GRADE(S): 12. QUALIFIERS: H.S. recommendations; instructor's authorization. DURATION/DATES: academic year and summer. EST. COST: $600-$1,500. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: none. CONTACT: Reverend James A. Woods, S.J., Boston College, Evening College, Fulton Hall 314, Chestnut Hill, MA 02167 (617/552-3900).

BRANDEIS UNIVERSITY. LECTURES IN "FOREFRONT TOPICS IN SCIENCE". COURSES: chemistry; biology; biochemistry; physics; mathematics; computer science; psychology. ENROLLMENT: 60-200/week. GRADE(S): 8-12. QUALIFIERS: interest only; no formal application process. DURATION/DATES: 10 weeks during academic year (10/10-12/10). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: none. CONTACT: Dr. Arthur H. Reis, Jr. and Ms. Elisabeth Wilson, Co-Directors, Brandeis University, Office of the Provost and Dean of the Faculty, Irving 104, Waltham, MA 02254 (617/736-2105 or 2109).

NORTHEASTERN UNIVERSITY. NORTHEASTERN UNIVERSITY ACADEMY. COURSES: mathematics; English; science; computers; PSAT preparation. ENROLLMENT: 85 (summer); 50 (academic year). GRADE(S): 7/8. QUALIFIERS: live in Northeastern University area; desire to improve themselves; speak English. DURATION/DATES: academic year and summer. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: mid-May. CONTACT: Carla Oblas, Northeastern University Academy, Northeastern University, 102 Cahners Hall, 360 Huntington Avenue, Boston, MA 02115 (617/437-2328).

SPRINGFIELD COLLEGE. REAL WORLD SCIENCE. RESEARCH: science. ENROLLMENT: 2 programs, 12 students/program. GRADE(S): 6-10. QUALIFIERS: recommendation of teacher; essay. DURATION/DATES: 4.5 weeks (6/30-7/29). EST. COST: $250. SCHOLARSHIPS: yes. APPLICATION DEADLINE: none. CONTACT: Dr. Robert Barkman, Springfield College, Bemis Hall, Springfield, MA 01109 (413/788-3288).

COMMUTER/RESIDENTIAL

BOSTON COLLEGE. BOSTON COLLEGE EXPERIENCE. COURSES: biology; chemistry; physics; calculus. ENROLLMENT: 300. GRADE(S): 12. QUALIFIERS: capable students who have outstanding academic record; program designed to introduce students to a new environment, encourage personal exploration and develop strategies for dealing with the more intense and special demands of college study. DURATION/DATES: 6 weeks (6/27-8/5). EST. COST: $1,800 (courses, housing, meal plan). SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/20. CONTACT: Elisabeth A. Strain, Boston College, Fulton Hall 314, Chestnut Hill, MA 02167 (617/552-3900).

BOSTON UNIVERSITY. RESEARCH INTERNSHIP PROGRAM IN THE PHYSICAL SCIENCES. RESEARCH: physics; chemistry; computer science; engineering; mathematics; biology. ENROLLMENT: 25. GRADE(S): 11. QUALIFIERS: PSAT scores; grades; recommendation of science teacher; independent science activity. DURATION/DATES: 6 weeks (6/28-8/6). EST. COST: $1,500. SCHOLARSHIPS: unknown. APPLICATION DEADLINE: 3/30. CONTACT: Professor George O. Zimmerman, Department of Physics, Boston University, 590 Commonwealth Avenue, Boston, MA 02215 (617/353-2185).

BRANDEIS UNIVERSITY. SUMMER SCIENCE RESEARCH APPRENTICE PROGRAM. RESEARCH/COURSES: chemistry; physics; mathematics; computer science; biology; biochemistry; physiological psychology. ENROLLMENT: 20. GRADE(S): 11/12. QUALIFIERS: GPA; recommendations; research interests; student essay. DURATION/DATES: 8 weeks (6/19-8/13). EST. COST: none. SCHOLARSHIPS: $800 stipend/housing and travel/funding availability. APPLICATION DEADLINE: 4/1. CONTACT: Dr. Arthur H. Reis, Jr. and Ms. Elisabeth Wilson, Co-Directors, Brandeis University, Office of the Provost and Dean of the Faculty, Irving 104, Waltham, MA 02254 (617/736-2105 or 2109).

MOUNT HOLYOKE COLLEGE. SUMMERMATH. COURSES: secondary school mathematics and computer programming. ENROLLMENT: 100. GRADE(S): 10/11/12 and precollege freshmen. QUALIFIERS: desire to learn mathematics. DURATION/DATES: 6 weeks (6/26-8/6). EST. COST: $2,250 (residential); $1,400 (commuting). SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1. CONTACT: Charlene Morrow and James Morrow, SummerMath, 302 Shattuck Hall, Mount Holyoke College, South Hadley, MA 01075 (413/538-2608).

NORTHEASTERN UNIVERSITY. PRE-NUPRIME (NORTHEASTERN UNIVERSITY'S PROGRESS IN MINORITY ENGINEERING). RESEARCH/COURSES: science; mathematics; engineering. ENROLLMENT: 38. GRADE(S): 9-12. QUALIFIERS: interest in engineering. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 9/1. CONTACT: David Blackman, Northeastern University College of Engineering, 255 Snell Building, 360 Huntington Avenue, Boston, MA 02115 (617/437-5904).

RADCLIFFE COLLEGE (IN COOPERATION WITH HARVARD SUMMER SCHOOL). RADCLIFFE SUMMER PROGRAM IN SCIENCE. COURSES: astronomy; biology; computer science; earth and planetary sciences (geology); mathematics; statistics; science and society. ENROLLMENT: 50. GRADE(S): 12+. QUALIFIERS: female; interest; academic ability; recommendations; motivation. DURATION/DATES: 8 weeks (6/26-8/19). EST. COST: $2,990. SCHOLARSHIPS: limited, based on need. APPLICATION DEADLINE: 6/1 or when program is full. CONTACT: Program Coordinator, Radcliffe Summer Program in Science, Radcliffe College, 111 Fay House, 10 Garden Street, Cambridge, MA 02138 (617/495-8626).

UNIVERSITY OF MASSACHUSETTS MEDICAL CENTER. HIGH SCHOOL HEALTH CAREER PROGRAM. RESEARCH/COURSES: biology; chemistry; mathematics; PSAT; CPR training. ENROLLMENT: 17. GRADE(S): 10/11. QUALIFIERS: minority and economically disadvantaged students who are residents of Massachusetts; GPA of 3.2. DURATION/DATES: 5 weeks (7/6-8/14). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/15. CONTACT: Marilyn Hurley-Valentine, University of Massachusetts Medical Center, 55 Lake Avenue, North, Worcester, MA 01605 (617/856-2444).

RESIDENTIAL

HAMPSHIRE COLLEGE. SUMMER STUDIES IN MATHEMATICS. COURSES: mathematics (as a creative process, not simply a collection of results). ENROLLMENT: 60. GRADE(S): 11-12. QUALIFIERS: sponsorship by H.S. teacher; informative letter from applicant; Summer Studies "interesting test". DURATION/DATES: 6 weeks (7/3-8/13). EST. COST: $1,275 (includes tuition, room and board, recreation, health coverage). SCHOLARSHIPS: yes. APPLICATION DEADLINE: early preferred. CONTACT: Professor David C. Kelly, Summer Studies in Mathematics, Hampshire College, Box NS, Amherst, MA 01002 (413/549-4600, ext. 375; (home) 413/467-9854).

MASSACHUSETTS INSTITUTE OF TECHNOLOGY. MINORITY INTRODUCTION TO ENGINEERING AND SCIENCE (MITES). COURSES: physics; biochemistry; engineering design; calculus; humanities. ENROLLMENT: 40. GRADE(S): 11. QUALIFIERS: essay questionnaire; grades; PSAT/SAT and ACT scores; letters of recommendation from a science teacher and a humanities teacher; minority student (Puerto Rican, Hispanic, Black, and American Indian) with a high interest in both science and engineering. DURATION/DATES: 6 weeks (6/26-8/6). EST. COST: none, travel must be provided. SCHOLARSHIPS: for travel only in hardship cases. APPLICATION DEADLINE: 3/1. CONTACT: Director, MITES Program, Massachusetts Institute of Technology, Room 1-206, Cambridge, MA 02139 (617/253-1415).

NORTHEASTERN UNIVERSITY. INSTITUTE FOR MINORITY HIGH SCHOOL STUDENTS "WHAT IS ENGINEERING?". COURSES: mathematics; computer science; engineering. ENROLLMENT: 25. GRADE(S): 12. QUALIFIERS: letters of recommendation; interest; grades; application. DURATION/DATES: 2 weeks (July). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/15. CONTACT: Michael Kupferman and Richard Scranton, Northeastern University, 360 Huntington Avenue, Department of Civil Engineering, 443 Snell Building, Boston, MA 02115 (617/437-3900).

SUFFOLK UNIVERSITY AND THE MUSEUM OF SCIENCE AT BOSTON. MARINE SCIENCE FIELD EXPERIENCE. COURSES: marine sciences (biology; chemistry; geology; oceanography). ENROLLMENT: 30. GRADE(S): 9/10. QUALIFIERS: application processed at the Museum of Science in Boston. DURATION/DATES: 1 week (7/10-16). EST. COST: $340. SCHOLARSHIPS: limited. APPLICATION DEADLINE: 5/1. CONTACT: Mr. Carl Merrill, Suffolk University, Biology Department, A-501, 41 Temple Street, Boston, MA 02114 (617/723-4700, ext. 8398).

UNIVERSITY OF MASSACHUSETTS. ENGINEERING CAREER ORIENTATION. COURSES: computers; mathematics; chemistry; writing. ENROLLMENT: 40. GRADE(S): 8-12. QUALIFIERS: transcripts; recommendation letters; application; interest; essay. DURATION/DATES: grades 8/9: 2 weeks (7/10-23); grades 10/11/12: 3 weeks (7/24-8/13). EST. COST: $200. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/15. CONTACT: Dwight Tavada or Herbert Pierce, Minority Engineering Program, University of Massachusetts, College of Engineering, 128 Marston Hall, Amherst, MA 01003 (413/545-2030).

WORCESTER POLYTECHNIC INSTITUTE. FRONTIERS IN SCIENCE AND MATHEMATICS. RESEARCH/COURSES: physics; chemistry; biology; mathematics; civil engineering. ENROLLMENT: 90. GRADE(S): 12. QUALIFIERS: academically talented with a strong interest in science, mathematics, and technology; transcript; nomination from mathematics or science teacher. DURATION/DATES: 2 weeks (6/19-30). EST. COST: $700. SCHOLARSHIPS: limited. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Thomas H. Keil, Worcester Polytechnic Institute, c/o Summer Session Office, 100 Institute Road, Worcester, MA 01609 (617/793-5591).

MICHIGAN

COMMUTER

FORD MOTOR COMPANY. FORD SCIENCE AND TECHNOLOGY PROGRAM FOR HIGH SCHOOL STUDENTS AND TEACHERS. RESEARCH/COURSES: chemistry; physics; materials science; automotive engineering -- lecture and laboratory tours during academic year and research internships during summer. ENROLLMENT: 65 students/10 teachers per lecture during academic year; 5 summer interns. GRADE(S): 9-12. QUALIFIERS: attendees chosen by teachers; interns chosen by teacher/Ford committee. DURATION/DATES: 8 lectures during academic year; 1 month summer internships. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: none. CONTACT: Mr. John Bomback, Ford Motor Company, Room 1077 SRL, Box 2053, Dearborn, MI 48121 (313/323-2605).

UNIVERSITY OF MICHIGAN, DEARBORN. PREP. RESEARCH/COURSES: mathematics; chemistry; communication arts; English. ENROLLMENT: 35. GRADE(S): 11. QUALIFIERS: specifically minority, however all will be considered. DURATION/DATES: 4 weeks (July). EST. COST: transportation and food. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1. CONTACT: Elaine Dowell, University of Michigan, 4901 Evergreen, Dearborn, MI 48128 (313/593-5340).

WAYNE STATE UNIVERSITY. SUMMER RESEARCH APPRENTICESHIP PROGRAM. RESEARCH: biology; chemistry; automotive engineering; computer graphics. ENROLLMENT: 6-8. GRADE(S): 11/12. QUALIFIERS: Detroit public school students with high GPA (3.0 or above). DURATION/DATES: 9 weeks (6/20-8/19). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/13. CONTACT: Donny D. Smith, Manager of Special Programs, Wayne State University, Room 1174, 5050 Anthony Wayne Drive, Detroit, MI 48202 (313/577-3812).

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MICHIGAN STATE UNIVERSITY. HIGH SCHOOL HONORS SCIENCE PROGRAM. RESEARCH: experimental biology. ENROLLMENT: 26. GRADE(S): 11/12. QUALIFIERS: class rank; 3 years mathematics; and 2 years science. DURATION/DATES: 7 weeks (6/19-8/6). EST. COST: $1,040 (residents); $200 (commuters), pending outside support. SCHOLARSHIPS: yes, pending outside funding. APPLICATION DEADLINE: 4/1. CONTACT: Dr. Charles R. Peebles, Department of Natural Science, 100 North Kedzie Laboratory, Michigan State University, East Lansing, MI 48824 (517/355-4600 or 3782).

MICHIGAN TECHNOLOGICAL UNIVERSITY. SUMMER YOUTH PROGRAM. COURSES: outdoor and ecological (mountaineering and orienteering; bicycling, biology, and geology; backpacking ecology; backpacking on Isle Royale; horticulture; limnology; forestry; mineralogy and field geology); computer technology (Programming in FORTRAN, PASCAL, and BASIC; microcomputer assembly language and interfacing; APPLE machine language); engineering-science (chemical, civil, mechanical, and electrical engineering; materials; minerals; computer-aided design; robotics; geometry; mathematics; microbiology; physics; chemistry; etc.). ENROLLMENT: 1000. GRADE(S): 7-12. QUALIFIERS: interest; criteria for scholarship recipients are dependent on the sponsoring organization. DURATION/DATES: 1 to 4 weeks (7/10-8/6). EST. COST: $275 (residential); $165 (commuter). SCHOLARSHIPS: several organizations sponsor students. APPLICATION DEADLINE: 7/10. CONTACT: Chris Anderson, Youth Program Office, 208 AOB, Michigan Technological University, Houghton, MI 49931 (906/487-2219).

NORTHERN MICHIGAN UNIVERSITY. THE SEABORG SUMMER SCIENCE ACADEMY. COURSES: core courses for all students in problem solving in mathematics and science; electives in physics, chemistry, biology, computing, ecology, and earth science. ENROLLMENT: 40. GRADE(S): 10/11 (9, if outstanding). QUALIFIERS: two years of H.S. mathematics and science; good grades or other solid evidence of potential; teacher recommendation; standardized test scores; student essay. DURATION/DATES: 2 weeks (7/17-30). EST. COST: $525 (residential) including course fees, housing, meals, recreational fees; $385 (commuter) including lunches and picnics. SCHOLARSHIPS: yes, ranging from $100-425 depending on need. APPLICATION DEADLINE: 4/15. CONTACT: Marilynn Robbert, Bureau of School Services, Northern Michigan University, Marquette, MI 49855 (906/227-2693).

UNIVERSITY OF DETROIT. UNITIATES INTRODUCTION TO ENGINEERING (UNITE). COURSES: intro to computer graphics; intro to statistics. ENROLLMENT: 30. GRADE(S): 9/10. QUALIFIERS: application; transcript; teacher recommendation. DURATION/DATES: 4 weeks (7/11-8/5). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 6/1. CONTACT: Arthur C. Haman, Assistant Dean, Engineering and Science, University of Detroit, 4001 W. McNichols, Detroit, MI 48221 (313/927-1216).

RESIDENTIAL

GMI ENGINEERING & MANAGEMENT INSTITUTE. AIM (ACADEMICALLY INTERESTED MINORITIES) PROGRAM. COURSES: chemistry; communications; computer; mathematics; study skills; engineering laboratory. ENROLLMENT: 36. GRADE(S): 11/12. QUALIFIERS: 2.8 GPA; 2 years algebra; 1 year geometry; 1 year chemistry; 2 years English. DURATION/DATES: 6 weeks (7/9-8/18). EST. COST: none. SCHOLARSHIPS: yes, two 2-year undergraduate GMI scholarships awarded to top students. APPLICATION DEADLINE: 3/31. CONTACT: Dr. David Green, Jr., GMI Engineering & Management Institute, 1700 West Third Avenue, Flint, MI 48502 [313/762-7907; 800/572-9908 (Michigan); 800/521-7436 (national)].

MICHIGAN TECHNOLOGICAL UNIVERSITY. MICHIGAN STATE BOARD OF EDUCATION SUMMER INSTITUTES FOR THE ARTS AND SCIENCES. COURSES: chemistry; physics (also includes creative and technical writing). ENROLLMENT: 100. GRADE(S): 11/12. QUALIFIERS: H.S. nomination; screened by intermediate school district; selected by college and state officials. DURATION/DATES: 2 weeks (6/19-7/2). EST. COST: $150. SCHOLARSHIPS: may be available from local, state and regional agencies. APPLICATION DEADLINE: late February (varies with individual school district). CONTACT: Chris Anderson, Youth Program Office, 208 AOB, Michigan Technological University, Houghton, MI 49931 (906/487-2219). Additional contact: Chris Kitzman, Washtenaw Intermediate School District, 1819 South Wagner Road, Ann Arbor, MI, 48106 (313/996-3203).

MICHIGAN TECHNOLOGICAL UNIVERSITY. WOMEN IN ENGINEERING. COURSES: introduction to ten different areas of engineering and engineering technology. ENROLLMENT: 210. GRADE(S): 10/11/12. QUALIFIERS: recommendation from science or math teacher; transcript; written essay by applicant; and application information. DURATION/DATES: two 1-week workshops (6/13-24). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE:

4/8. CONTACT: Chris Anderson, Youth Program Office, 208 AOB, Michigan Technological University, Houghton, MI 49931 (906/487-2219).

UNIVERSITY OF DETROIT. MICHIGAN STATE BOARD OF EDUCATION SUMMER INSTITUTES FOR THE ARTS AND SCIENCES. RESEARCH/COURSES: chemistry; biology. ENROLLMENT: 100. GRADE(S): 11/12. QUALIFIERS: H.S. nomination; screened by intermediate school district; selected by college and state officials. DURATION/DATES: 2 weeks (7/10-23). EST. COST: $150. SCHOLARSHIPS: may be available from local, state, regional agencies. APPLICATION DEADLINE: late February (varies with individual school district). CONTACT: Bradley Fitch, University of Detroit, Faculty Administrative Center, Room 500, Detroit, MI 48221 (313/927-1587). Additional contact: Chris Kitsman, Washtenaw Intermediate School District, 1819 South Wagner Road, Ann Arbor, MI, 48106 (313/996-3203).

UNIVERSITY OF MICHIGAN. SUMMER APPRENTICESHIP PROGRAM. RESEARCH/COURSES: algebra; engineering concepts; technical communications; computers. ENROLLMENT: unknown. GRADE(S): 11/12. QUALIFIERS: transcripts; applications; test scores. DURATION/DATES: 5 weeks (7/5-8/6). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/21. CONTACT: Sharon R. Burch, University of Michigan, 1301 Beal, 2316 Electrical Engineering and Computer Science Building, Ann Arbor, MI 48109 (313/764-6497).

UNIVERSITY OF MICHIGAN. SUMMER COLLEGE ENGINEERING EXPOSURE PROGRAM. EXPOSURE: lab tours; presentations; field trips; workshops on time management; test taking skills; study skills; goal setting. ENROLLMENT: 30. GRADE(S): 12. QUALIFIERS: application; transcripts; standardized and/or PSAT test scores. DURATION/DATES: 1 week (7/31-8/7). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 6/27. CONTACT: Sharon R. Burch, University of Michigan, 1301 Beal, 2316 Electrical Engineering and Computer Science Building, Ann Arbor, MI 48109 (313/764-6497).

UNIVERSITY OF MICHIGAN. SUMMER ENRICHMENT PROGRAM. COURSES: algebra; computers; technical communications; engineering concepts. ENROLLMENT: 30. GRADE(S): 9/10. QUALIFIERS: Detroit area students; H.S. transcript; teacher recommendation; application information. DURATION/DATES: 4 weeks (7/5-30). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/21. CONTACT: Sharon R. Burch, University of Michigan, 1301 Beal, 2316 Electrical Engineering and Computer Science Building, Ann Arbor, MI 48109 (313/764-6497).

WESTERN MICHIGAN UNIVERSITY. MICHIGAN STATE BOARD OF EDUCATION SUMMER INSTITUTES FOR THE ARTS AND SCIENCES. RESEARCH/COURSES: mathematics; biomedical technology; physics of music; environmental chemistry; computer assisted design; robotics. ENROLLMENT: 100. GRADE(S): 11/12. QUALIFIERS: H.S. nomination; screened by intermediate school district; selected by college and state officials. DURATION/DATES: 2 weeks (7/31-8/13). EST. COST: $150. SCHOLARSHIPS: may be available from local, state, regional agencies. APPLICATION DEADLINE: late February (varies with individual school district). CONTACT: James Peterson, Department of Sociology, Western Michigan University, Kalamazoo, MI 49008 (616/383-6127). Additional contact: Chris Kitsman, Washtenaw Intermediate School District, 1819 South Wagner Road, Ann Arbor, MI, 48106 (313/996-3203).

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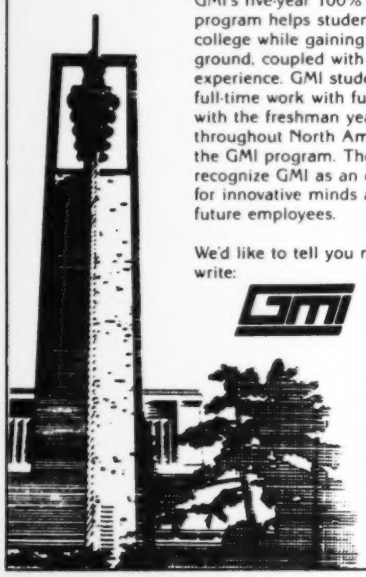

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MINNESOTA

COMMUTER

AUGSBURG COLLEGE. SUMMER SESSIONS. COURSES: biology; chemistry; physics; mathematics; computer science. ENROLLMENT: 40. GRADE(S): 11/12. QUALIFIERS: Augsburg's normal admissions criteria; prerequisites. DURATION/DATES: one 4-week term (5/30-6/24); one 6-week term (6/27-8/5). EST. COST: $385. SCHOLARSHIPS: none. APPLICATION DEADLINE: open. CONTACT: Pat Parker, Director of Summer Sessions, Augsburg College, 731 21st Avenue South, Minneapolis, MN 55401 (612/330-1025).

COMMUTER/RESIDENTIAL

CARLETON COLLEGE. INTRODUCTION TO MATHEMATICAL AND SCIENTIFIC REASONING. COURSES: mathematics; biology; chemistry; physics; geology. ENROLLMENT: 50. GRADE(S): 8-12. QUALIFIERS: 450+ SAT; one course in algebra. DURATION/DATES: 4 days (7/11-14). EST. COST: $105 (commuter); $210 (residential). SCHOLARSHIPS: yes, but limited. APPLICATION DEADLINE: unknown. CONTACT: Dr. Clifford E. Clark, Jr., Summer Academic Programs, Carleton College, Northfield, MN 55057 (507/663-4301).

UNIVERSITY OF MINNESOTA. TALENTED YOUTH MATHEMATICS PROJECT. COURSES: special advanced mathematics course work (academic year); special programs in various topics in mathematics (summer). ENROLLMENT: 450. GRADE(S): 5-12. QUALIFIERS: school/parent recommendation; admission examination. DURATION/DATES: academic year and summer; summer dates (June-July). EST. COST: $75-250 (academic year/commuter only); no cost (summer/residential and commuter). SCHOLARSHIPS: yes, limited. APPLICATION DEADLINE: 9/1 (academic year); 5/1 (summer). CONTACT: Dr. Harvey B. Keynes, Project Director, University of Minnesota Talented Youth Mathematics Project, 127 Vincent Hall, 206 Church Street, S.E., Minneapolis, MN 55455 (612/625-2861).

RESIDENTIAL

GUSTAVUS ADOLPHUS COLLEGE. COMPUTERS: GRAPHICS, GAMES, AND PROGRAMMING. COURSES: computer science. ENROLLMENT: 30. GRADE(S): 8-12. QUALIFIERS: student interest. DURATION/DATES: 2 weeks (7/5-16). EST. COST: $550. SCHOLARSHIPS: through Minnesota Higher Education Coordination Board. APPLICATION DEADLINE: 6/1. CONTACT: John Holte, Department of Mathematics, Gustavus Adolphus College, St. Peter, MN 56082 (507/931-7465).

SAINT CLOUD STATE UNIVERSITY OBSERVATORY AND PLANETARIUM. CAMP URANIBORG FOR ASTRONOMY AND SCIENCE. RESEARCH/COURSES: astronomy; physics; mathematics; planetary geology; planetariums; relativity; philosophy of science; psychology; art and science--emphasis is on astronomy. ENROLLMENT: 20-35. GRADE(S): 7-12. QUALIFIERS: interest! DURATION/DATES: 3 weeks during summer. EST. COST: $200/week. SCHOLARSHIPS: limited. APPLICATION DEADLINE: 6/1. CONTACT: David Targan, Camp Uraniborg, Observatory and Planetarium, St. Cloud State University, St. Cloud, MN 56301 (612/255-2013 or 2011).

UNIVERSITY OF MINNESOTA, DULUTH. OPPORTUNITIES IN ENGINEERING. COURSES: engineering. ENROLLMENT: 25/session. GRADE(S): 11. QUALIFIERS: GPA; courses; letters of recommendation; applicant's statement; interest in science and engineering; extracurricular activities. DURATION/DATES: two 1-week sessions (July). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/1. CONTACT: Teri L. Williams, Continuing Education and Extension, 403 Darland Administration Building, University of Minnesota, 10 University Drive, Duluth, MN 55812-2496 (218/726-8835).

UNIVERSITY OF MINNESOTA, MORRIS. GENETIC ALTERATION: TINKERING WITH NATURE. COURSES: biology, genetics; history; philosophy. ENROLLMENT: 25. GRADE(S): 12. QUALIFIERS: top 20% of class; recommendation of H.S. counselor or principal; essay. DURATION/DATES: 2 weeks (7/11-22). EST. COST: $145. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/2. CONTACT: Thomas B. McRoberts, Continuing Education and Summer Session, 231 Community Services Building, University of Minnesota, Morris, MN 56267 (612/589-2211, ext. 6450).

MISSISSIPPI

COMMUTER/RESIDENTIAL

JACKSON STATE UNIVERSITY. HEALTH CAREERS TRAINING PROGRAM. COURSES: biology; general chemistry; computer science; basic mathematics; human anatomy; physiology. ENROLLMENT: 30. GRADE(S): 12. QUALIFIERS: students interested in health or biomedical profession; GPA of 2.5+; ACT of 15+; completed some science and mathematics courses; letter of recommendation. DURATION/DATES: 8 weeks (6/6-7/29). EST. COST: unknown. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Charles H. Spann, P.O. Box 17053, Jackson State University, Jackson, MS 39217 (601/968-2202; 601/968-2153).

JACKSON STATE UNIVERSITY. PRE-NURSING TRAINING PROGRAM. COURSES: biology; general chemistry; basic mathematics; introduction to nursing; human anatomy; physiology. ENROLLMENT: 20. GRADE(S): 12. QUALIFIERS: interested in nursing; GPA of 2.0 or above; completed H.S. science and mathematics; letter of recommendation. DURATION/DATES: 6 weeks (6/6-7/15). EST. COST: unknown. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Charles H. Spann, P.O. Box 17053, Jackson State University, Jackson, MS 39217 (601/968-2202; 601/968-2513).

MISSISSIPPI STATE UNIVERSITY. SPECIAL PROGRAM FOR ACADEMICALLY TALENTED STUDENTS (SPATS). COURSES: biology; botany; chemistry; computer science; earth science; geology; geography; genetics; physics; zoology; mathematics. ENROLLMENT: 50, but unlimited access. GRADE(S): 11/12. QUALIFIERS: 24 ACT composite or SAT/PSAT equivalency; H.S. letter of recommendation; permission of H.S. and parents; sound academic credentials; top 10% of H.S. class. DURATION/DATES: commuting and residential program during summer (6/6-7/8; 7/10-8/10); courses also available during academic year for commuters only. EST. COST: $153-956, depending on number of courses; $125 for dorm room. SCHOLARSHIPS: yes, $50 tuition and fee merit scholarships. APPLICATION DEADLINE: 6/1 and 7/1 (summer sessions). CONTACT: Dr. Jack H. White, Mississippi State University, Post Office Drawer EH, Mississippi State, MS 39762 (601/325-2522).

MISSISSIPPI UNIVERSITY FOR WOMEN. PRECOLLEGE ENRICHMENT PROGRAM (PEP). COURSES: biology; chemistry; analytical geometry; calculus, geography; history; other disciplines. ENROLLMENT: 40. GRADE(S): 12. QUALIFIERS: minimum ACT score of 24 or SAT/PSAT equivalent. DURATION/DATES: two 5-week terms (June-August). EST. COST: tuition free; $350/term for room and board. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/25. CONTACT: Kit Carson, Mississippi University for Women. P.O. Box W-471, Columbus, MS 39701 [601/329-7174 (in-state); 1-800/247-0758 (out-of-state)].

RESIDENTIAL

MISSISSIPPI STATE UNIVERSITY. MINORITY INTRODUCTION TO ENGINEERING. COURSES: engineering; mathematics; computer science. ENROLLMENT: 25-30. GRADE(S): 12. QUALIFIERS: strong interest in engineering; high achievement in both mathematics and science. DURATION/DATES: 1 week (6/5-11). EST. COST: only travel. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/15. CONTACT: Walter R. Carnes, Mississippi State University, Drawer DE, Mississippi State, MS 39762 (601/325-2268).

UNIVERSITY OF SOUTHERN MISSISSIPPI. INVITATION TO MARINE DISCOVERY. RESEARCH/COURSE: marine science. ENROLLMENT: 60. GRADE(S): 7-12. QUALIFIERS: top 30% of class; recommendation by counselor or science teacher. DURATION/DATES: 1 week (6/26-7/1). EST. COST: $275. SCHOLARSHIPS: to be determined. APPLICATION DEADLINE: 6/10. CONTACT: Larry Bellipanni, Southern Station Box 8298, University of Southern Mississippi, Hattiesburg, MS 39406 (601/266-4740).

MISSOURI

COMMUTER

DRURY COLLEGE. BIOCHEMICAL STUDIES OF THE HYDROLYSIS OF SUGAR PHOSPHATES. RESEARCH: chemistry. ENROLLMENT: 4-6. GRADE(S): 11/12. QUALIFIERS: high GPA; two recommendation letters from science teachers. DURATION/DATES: 8 weeks (June-July). EST. COST: no tuition fee; but all expenses to be paid by students. SCHOLARSHIPS: none. APPLICATION DEADLINE: 3/15. CONTACT: Dr. Rabin N. Roy, Chairman, Chemistry Department, Drury College, Springfield, MO 65802 (417/865-8731, ext. 247).

UNIVERSITY OF MISSOURI AND THE MISSOURI DEPARTMENT OF CONSERVATION. CONSERVATION HONORS PROGRAM. COURSES: ecological studies of forest, wildlife and fish resources (college credit given). ENROLLMENT:

50. GRADE(S): 12. QUALIFIERS: interest in conservation; 11th grader when application is made; rank in top 85% of national PSAT test (or equivalent); Missouri resident. DURATION/DATES: 1 week (June). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 2/15. CONTACT: Dr. Albert R. Vogt, University of Missouri-Columbia, School of Forestry, Fisheries and Wildlife, 1-30 Agriculture Building, Columbia, MO 65211 (314/882-6446).

UNIVERSITY OF MISSOURI, ST. LOUIS. INTRODUCTION TO THE ELEMENTS OF ENGINEERING. COURSES: all areas of engineering and computer science. ENROLLMENT: 30-50. GRADE(S): 12. QUALIFIERS: upper third of class; 3 units of mathematics; one or more science courses. DURATION/DATES: 8 weeks, 1 night/week on Thursdays (3/3-4/21). EST. COST: $200. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 2/25. CONTACT: Walter L. Ries, University of Missouri, Room 111 ERL, Rolla, MO 65401 (314/341-4132 or 553-5971). (Course is held in St. Louis, not Rolla.)

COMMUTER/RESIDENTIAL

MISSOURI WESTERN STATE COLLEGE. ADVANCED CHEMISTRY EDUCATIONAL SEMINAR. RESEARCH/COURSES: chemistry. ENROLLMENT: 20. GRADE(S): 11/12. QUALIFIERS: teacher recommendations; transcript. DURATION/DATES: 4 weeks (6/13-7/8). EST. COST: $375 (commuter); $600 (residential). SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/15. CONTACT: Richard M. Schwarz, Missouri Western State College, 4525 Downs Drive, St. Joseph, MO 64507 (816/271-4371).

THE SCHOOL OF THE OZARKS. MATHEMATICS SUMMER INSTITUTE. COURSES: non-traditional mathematics topics; problem solving emphasis; microcomputer usage. ENROLLMENT: 12-15/session. GRADE(S): 10/11/12. QUALIFIERS: aptitude and interest in learning more about problem solving strategies, microcomputers, and new mathematics experiences. DURATION/DATES: 1- and 2-week programs (June, July & August). EST. COST: $125 (resident); $50 (commuter). SCHOLARSHIPS: yes. APPLICATION DEADLINE: none, if space available. CONTACT: Dr. Larry Campbell, Department of Mathematics/Physics, The School of the Ozarks, Point Lookout, MO 65726 (417/334-6411, ext. 257).

UNIVERSITY OF MISSOURI, ROLLA. FUNDAMENTALS OF ENGINEERING: A WEEK IN ENGINEERING SCHOOL. COURSES: all areas of engineering and computer science. ENROLLMENT: 100-125. GRADE(S): 12. QUALIFIERS: upper 25% of class; 3 units of mathematics; one or more science courses. DURATION/DATES: two 1-week programs (1st session: 6/13-17; 2nd session: 8/8-12). EST. COST: $300-325. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/30 (1st session); 8/1 (2nd session). CONTACT: Walter L. Ries, University of Missouri, Room 111 ERL, Rolla, MO 65401 (314/341-4132).

UNIVERSITY OF MISSOURI, UNIVERSITY OF NEBRASKA AT OMAHA, KANSAS STATE UNIVERSITY, WICHITA STATE UNIVERSITY, UNIVERSITY OF KANSAS. MID-AMERICA CONSORTIUM FOR ENGINEERING AND SCIENCE ACHIEVEMENT (MACESA). RESEARCH/COURSES: math and science enrichment; self-concept; field trips and speakers; math and science projects. ENROLLMENT: 247. GRADE(S): 9-12. QUALIFIERS: interest in engineering-related careers; academic achievement; teacher recommendation; essay. DURATION/DATES: academic year and 6/12-25 during summer. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/1. CONTACT: Karen Hummel, Director, MACESA, 144 Durland Hall, Kansas State University, Manhattan, KS 66506 (913/532-5949).

RESIDENTIAL

NORTHEAST MISSOURI STATE UNIVERSITY. HIGH SCHOOL SUMMER RESEARCH PROGRAM. RESEARCH: agriculture; biology; chemistry; physics. ENROLLMENT: 6. GRADE(S): 12. QUALIFIERS: grades; letters of recommendation; sufficient background for project selected. DURATION/DATES: 10 weeks (6/6-8/11). EST. COST: $750. SCHOLARSHIPS: yes, limited number. APPLICATION DEADLINE: 3/15. CONTACT: Dr. Russell G. Baughman, Division of Science, Northeast Missouri State University, Kirksville, MO 63501 (816/785-4627).

NORTHEAST MISSOURI STATE UNIVERSITY. JOHN R. KIRK HONORS INSTITUTE. COURSES: mathematics; biology; language. ENROLLMENT: 15/class. GRADE(S): 10/11. QUALIFIERS: 97th percentile on standardised tests; nomination by H.S. principal. DURATION/DATES: 4 weeks (6/11-7/9). EST. COST: $575. SCHOLARSHIPS: yes, limited number. APPLICATION DEADLINE: 2/29. CONTACT: Dr. Robert A. Dager, Head, Business Division, Northeast Missouri State University, Kirksville, MO 63501 (816/785-4346).

SAINT LOUIS COLLEGE OF PHARMACY. SUMMER PHARMACY CAREER INSTITUTE. COURSES: chemistry, biology, microbiology, anatomy, pharmacy courses; plus pharmacy site visits to hospital, clinical, nuclear, retail, and manufacturing sites. ENROLLMENT: 50. GRADE(S): 12. QUALIFIERS: test scores; GPA; recommendation of H.S. counselor; pharmacy interest. DURATION/DATES: 5 days (last week in June). EST. COST: $50. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1. CONTACT: Norma Kolacki, St. Louis College of Pharmacy, 4588 Parkview Place, St. Louis, MO 63110 (314/367-8700).

UNIVERSITY OF MISSOURI, COLUMBIA AND MISSOURI DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION. MISSOURI SCHOLARS ACADEMY. COURSES: students choose one "major" out of 5 offered in the sciences (courses also offered in math, humanities, and social sciences). ENROLLMENT: 320 (80 in science curriculum). GRADE(S): 11. QUALIFIERS: GPA; standardized test scores; essays by student and H.S. principal. DURATION/DATES: 3 weeks (6/12-7/2). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 2/15. CONTACT: Director, Missouri Scholars Academy, University of Missouri, Columbia, MO 65211 (314/882-4421).

UNIVERSITY OF MISSOURI, ROLLA. JACKLING MINERAL INDUSTRIES SUMMER CAREERS INSTITUTE. COURSES: minerals and materials engineering (geology; geophysics; geological engineering; petroleum engineering; mining engineering; ceramic engineering; metallurgical engineering; nuclear engineering). ENROLLMENT: 120. GRADE(S): 12. QUALIFIERS: academic ability and credentials; career interest; recommendations of teacher and/or counselor. DURATION/DATES: three 1-week sessions (6/6-23). EST. COST: $25. SCHOLARSHIPS: all receive. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Ronald A. Kohser, Department of Metallurgical Engineering, University of Missouri, Rolla, MO 65401 (314/341-4734).

NEBRASKA

COMMUTER

UNIVERSITY OF NEBRASKA AT OMAHA. EARLY ENTRY. RESEARCH/COURSES: all areas. ENROLLMENT: 100 total (5-10 in science). GRADE(S): 10/11/12. QUALIFIERS: nomination by H.S. and concurrence of department involved. DURATION/DATES: academic year and summer. EST. COST: regular tuition. SCHOLARSHIPS: yes (summer only, through Duke University Talent Search). APPLICATION DEADLINE: 1 month prior to starting date. CONTACT: Shirley Petrowski, Assistant to the Dean, University of Nebraska at Omaha, Omaha, NE 68182 (402/554-2458).

COMMUTER/RESIDENTIAL

UNIVERSITY OF NEBRASKA AT OMAHA, KANSAS STATE UNIVERSITY, WICHITA STATE UNIVERSITY, UNIVERSITY OF KANSAS, UNIVERSITY OF MISSOURI. MID-AMERICA CONSORTIUM FOR ENGINEERING AND SCIENCE ACHIEVEMENT (MACESA). RESEARCH/COURSES: math and science enrichment; self-concept; field trips and speakers; math and science projects. ENROLLMENT: 247. GRADE(S): 9-12. QUALIFIERS: interest in engineering-related careers; academic achievement; teacher recommendation; essay. DURATION/DATES: academic year and 6/12-25 during summer. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/1. CONTACT: Karen Hummel, Director, MACESA, 144 Durland Hall, Kansas State University, Manhattan, KS 66506 (913/532-5949).

RESIDENTIAL

UNIVERSITY OF NEBRASKA MEDICAL CENTER. SUMMER HEALTH PROFESSIONS WORKSHOP. RESEARCH/COURSES: various, including clinical and didactic areas. ENROLLMENT: 25/session. GRADE(S): 11/12. QUALIFIERS: demonstrated level of interest; aptitude and scholastic achievement. DURATION/DATES: two 1-week sessions (July). EST. COST: $150. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/30. CONTACT: Dr. Gardner Van Dyke, Director of Academic Records/Special Programs, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, NE 68105 (402/559-6248).

NEW JERSEY

COMMUTER

COLLEGE OF SAINT ELIZABETH. THE ISOLATION AND CHARACTERIZATION OF NATURAL PRODUCTS - CHEMISTRY WORKSHOP FOR HIGH SCHOOL WOMEN. COURSES: chemistry. ENROLLMENT: 20. GRADE(S): 10/11/12. QUALIFIERS: essay; transcript; recommendation from science teacher. DURATION/DATES: 4 Saturdays (2/6; 2/13; 2/20; 2/27). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 12/15. CONTACT: Dr. Elena Colicelli, Department of Chemistry, College of Saint Elizabeth, Convent Station, NJ 07961 (201/292-6337).

GEORGE WASHINGTON UNIVERSITY. SCIENCE AND ENGINEERING APPRENTICE PROGRAM (SEAP). See complete listing in District of Columbia section.

MONMOUTH COLLEGE. PROGRAM FOR THE ACCELERATION IN COMPUTER SCIENCE CAREERS (PAC) FOR MINORITY STUDENTS. COURSES: mathematics; computer science. ENROLLMENT: 60. GRADE(S): 5-8. QUALIFIERS: completion of application; mathematics test; recommendation from mathematics teacher. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 9/17. CONTACT: Ms. Venetia Gilmore, EOF Department, Monmouth College, West Long Branch, NJ 07764 (201/571-3462).

MONMOUTH COLLEGE. YOUNG SCHOLARS INSTITUTE. COURSES: mathematics (algebra, linear algebra, calculus, real fields, set theories, infinity, logic, probability); physics (kinematics, gravitation, dynamics, electro-magnetism, selected aspects of genetics and evolution); principles of marine biology (biota of oceans, taxonomy, ecology, distribution and oceanography); computer science; principles of engineering. ENROLLMENT: 50. GRADE(S): 7-9. QUALIFIERS: SAT scores; identification by district. DURATION/DATES: 8 weeks during academic year. EST. COST: $120. SCHOLARSHIPS: limited. APPLICATION DEADLINE: unknown. CONTACT: Dr. Jack W. Bronfeld, Monmouth College, Attn: Dept. Education, Young Scholars Institute, West Long Branch, NJ 07764 (201/571-3437).

MONTCLAIR STATE COLLEGE. THE ACADEMICALLY TALENTED YOUNG STUDENT PROGRAM (GIFTED YOUTH PROGRAM). COURSES: computer science; logic; oceanography; pre-calculus; number theory algebra; geometry; probability; chemistry; physics; simulated mocktrials; simulation games; etymology; creative writing; Pompeii and others. ENROLLMENT: unlimited. GRADE(S): 7-10. QUALIFIERS: 97th percentile on standardized tests; SAT scores; IQ; screening identification by school district as "gifted". DURATION/DATES: academic year and summer (7/11-29). EST. COST: $200/semester (academic year); $600 (summer). SCHOLARSHIPS: yes. APPLICATION DEADLINE: 6/20. CONTACT: Dr. Carl Gottschall, Montclair State College, Upper Montclair, NJ 07043 (201/893-4104).

NEW JERSEY INSTITUTE OF TECHNOLOGY. COMPUTER BASED PHYSICS. COURSES: physics; mathematics; computer science. ENROLLMENT: 30-40. GRADE(S): 12. QUALIFIERS: recommendations; top 20% of class; academic records; PSAT/SAT scores. DURATION/DATES: 5 weeks (6/27-7/29). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Ben Stevenson, Physics Department, Attention: Mrs. Maxine Kahn, New Jersey Institute of Technology, Newark, NJ 07102 (201/596-3562).

NEW JERSEY INSTITUTE OF TECHNOLOGY. FEMALES IN ENGINEERING: METHODS, MOTIVATION AND EXPERIENCE (FEMME). COURSES: mixed potpourri including science, mathematics, engineering, computer science. ENROLLMENT: 25. GRADE(S): 10/11. QUALIFIERS: interest and ability in science and mathematics. DURATION/DATES: 4 weeks (July). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: May. CONTACT: Lisa Novemsky, Center for Precollege Programs, New Jersey Institute of Technology, Newark, NJ 07102 (201/596-3253).

UPSALA COLLEGE. UPSALA SCIENCE ENRICHMENT PROGRAM. COURSES: science; mathematics; computer science. ENROLLMENT: 60-75. GRADE(S): 9-12. QUALIFIERS: B and above average. DURATION/DATES: biweekly on Saturday during academic year; 6 weeks during summer (6/27-8/5). EST. COST: none. SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/16. CONTACT: Rosie A. Noble, Puden Hall, Room 104, Upsala College, East Orange, NJ 07019 (201/266-7163; or evenings 201/783-0206).

COMMUTER/RESIDENTIAL

COOK COLLEGE AT RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY. DISCOVERY 88: A PRECOLLEGE ACADEMIC ENRICHMENT AND APPRENTICESHIP PROGRAM. RESEARCH/COURSES: agricultural and environmental sciences; chemistry; algebra/calculus. ENROLLMENT: 50. GRADE(S): 11/12. QUALIFIERS: New Jersey residents only; top 50% of H.S. class; strong academic promise; recommendation of H.S. counselor/science coordinator; focus primarily on minorities and/or EOF eligible. DURATION/DATES: 6 weeks during summer. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 3/30. CONTACT: Ramonita Santiago, Rutgers University, Cook College, P.O. Box 231, New Brunswick, NJ 08903 (201/932-9465).

DREXEL UNIVERSITY, PHILADELPHIA COLLEGE OF PHARMACY AND SCIENCE, TEMPLE UNIVERSITY, UNIVERSITY OF PENNSYLVANIA, AND VILLANOVA UNIVERSITY. PRIME UNIVERSITIES PROGRAM (PUP). COURSES: biology; chemistry; communications; mathematics; pharmacy; health sciences; physics; computer science; engineering; actuarial science; statistics; probability. ENROLLMENT: 550. GRADE(S): 9-12. QUALIFIERS: Philadelphia, PA/Camden, NJ students only; interest and high aptitude in math and science; 80th percentile or above on CAT; A and B grades in math and science; teacher and/or counselor recommendation; highly motivated. DURATION/DATES: 4 weeks (7/5-29). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: open. CONTACT: Dr. Alexander

Tobin, Executive Director, PRIME, Inc., Suite 1201, 1700 Walnut Street, Philadelphia, PA 19103 (215/893-8500).

STEVENS INSTITUTE OF TECHNOLOGY. EXPLORATION. COURSES: mathematics; computer science; engineering; science. ENROLLMENT: 30. GRADE(S): 8-10. QUALIFIERS: gifted students as determined by SAT scores or any other criteria. DURATION/DATES: 3 weeks (7/4-21 Monday-Thursday). EST. COST: $150/week (commuting); $285/week (residential). SCHOLARSHIPS: based on need. APPLICATION DEADLINE: 6/15. CONTACT: Dr. Myron E. White, Stevens Institute of Technology, Hoboken, NJ 07030 (201/420-5434 or 420-5448).

STEVENS INSTITUTE OF TECHNOLOGY. MOVE AHEAD PROGRAM. COURSES: mathematics; physics; chemistry; computer science. ENROLLMENT: 80. GRADE(S): 11-12. QUALIFIERS: mature enough to do personalised self-paced instruction. DURATION/DATES: student selects 2 to 8 weeks; 6/20-8/11 (Monday-Thursday). EST. COST: $150/week (commuting); $285/week (residential). SCHOLARSHIPS: based on need. APPLICATION DEADLINE: rolling admissions. CONTACT: Dr. Myron E. White, Stevens Institute of Technology, Hoboken, NJ 07030 (201/420-5434 or 420-5448).

STEVENS INSTITUTE OF TECHNOLOGY. STEVENS TECHNICAL ENRICHMENT PROGRAM - PRECOLLEGE. COURSES: physics; chemistry; biology; computers; algebra; geometry; trigonometry; precalculus; calculus. ENROLLMENT: 120. GRADE(S): 10/11/12. QUALIFIERS: underrepresented minority; on track in H.S. math; interest in science and engineering career; strong science and mathematics background; income level. DURATION/DATES: academic year and 6 weeks during summer (6/27-8/7). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/30. CONTACT: Mr. Edward N. Prather, Director, Stevens Technical Enrichment Program, Stevens Center Building 3rd Floor, Castle Point, Hoboken, NJ 07030 (201/420-5204).

RESIDENTIAL

COLLEGE GIFTED PROGRAMS AT BLAIR ACADEMY, BLAIRSTOWN. THE SUMMER INSTITUTE FOR THE GIFTED AT BLAIR ACADEMY (IN COOPERATION WITH THOMAS A. EDISON STATE COLLEGE). COURSES: BASIC; PASCAL; biology; chemistry; physics; linear algebra; astronomy; logic; algebra; geometry; calculus; PSAT/SAT mathematics; precalculus; veterinary medicine; humanities; simulations; art; music; sports (college credit given for some courses). ENROLLMENT: 250. GRADE(S): 4-11. QUALIFIERS: 95th percentile on standardised tests; SAT/PSAT scores; IQ; identification by school district as gifted; strong teacher recommendation. DURATION/DATES: 3 weeks (7/30-8/20). EST. COST: $1,350. SCHOLARSHIPS: extremely limited. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Carl Gottschall or Dr. Philip W. Zipse, College Gifted Programs, 544 Bloomfield Avenue, Verona, NJ 07044 (201/857-2521). Also see College Gifted Programs at George School, Newtown, Pennsylvania.

DREW UNIVERSITY AND STATE OF NEW JERSEY. NEW JERSEY GOVERNOR'S SCHOOL IN THE SCIENCES. RESEARCH/COURSES: biology; chemistry; physics; mathematics; computer science. ENROLLMENT: 100. GRADE(S): 12. QUALIFIERS: citizen of New Jersey; PSAT scores; academic record; math and science teacher recommendations; essays on interest in science. DURATION/DATES: 4 weeks (7/24-8/20). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 1/8. CONTACT: Dr. Alan Candiotti, Director, New Jersey Governor's School, Department of Mathematics, Drew University, 36 Madison Avenue, Madison, NJ 07940 (201/377-3000, ext. 605).

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STEVENS INSTITUTE OF TECHNOLOGY. BRIDGE: STEVENS TECHNICAL ENRICHMENT PROGRAM. COURSES: calculus; precalculus; physics; chemistry lab; humanities; computers. ENROLLMENT: 30-40. GRADE(S): precollege freshmen. QUALIFIERS: math diagnostic test. DURATION/DATES: 6 weeks (June-August). EST. COST: none. SCHOLARSHIPS: none. APPLICATION DEADLINE: revolving applications (no deadline). CONTACT: Mr. Edward N. Prather, Director, Stevens Technical Enrichment Program, Stevens Center Building 3rd Floor, Castle Point, Hoboken, NJ 07030 (201/420-5204).

STEVENS INSTITUTE OF TECHNOLOGY. STEVENS WOMEN IN ENGINEERING AND MANAGEMENT SUMMER PROGRAM. COURSES: laboratory experience in civil, electrical, mechanical, biomedical, metallurgical, and chemical engineering; and computer science. ENROLLMENT: 160 (40/week). GRADE(S): 11/12. QUALIFIERS: demonstrated ability and interest in mathematics and science; recommendation; PSAT scores. DURATION/DATES: four 1-week sessions (6/19-24; 6/26-7/1; 7/10-15; 7/17-22). EST. COST: $225/week. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/1. CONTACT: Susan S. Metz, Stevens Institute of Technology, Special Programs for Women, Hoboken, NJ 07030 (201/420-5245).

NEW MEXICO

RESIDENTIAL

NEW MEXICO TECH. MINORITIES IN MINERAL ENGINEERING AND SCIENCE PROGRAM (MIMES). COURSES: mathematics; chemistry; geology; mining. ENROLLMENT: 20. GRADE(S): 10/11. QUALIFIERS: Hispanic; Native American; Black; women. DURATION/DATES: July. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 3/15. CONTACT: New Mexico Tech, Admissions Office, Socorro, NM 87801 (out-of-state 1-800/428-8324; in NM 505/835-5424 (collect); in Albuquerque 505/865-3351).

NEW MEXICO TECH. NATIVE AMERICAN MINERAL ENGINEERING AND SCIENCE PROGRAM (NAMES). COURSES: mathematics; chemistry; geology; mining. ENROLLMENT: 25. GRADE(S): 10/11. QUALIFIERS: Native American; application; 2 science/math teacher recommendations; transcript. DURATION/DATES: July. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 3/15. CONTACT: Admissions Office, New Mexico Tech, Socorro, NM 87801 (out-of-state 1-800/428-8324; in NM 505/835-5424 (collect); in Albuquerque 505/865-3351).

NEW MEXICO TECH. SUMMER MINI-COURSES. RESEARCH/COURSES: geoscience; physics; mathematics; computer science; materials and metallurgical engineering; life sciences (biology/psychology). ENROLLMENT: 20-25. GRADE(S): 11/12. QUALIFIERS: application; teacher references; transcripts. DURATION/DATES: 1 week/session during summer. EST. COST: $70-80/week. SCHOLARSHIPS: none. APPLICATION DEADLINE: 4/15. CONTACT: Office of Admissions, New Mexico Tech, Campus Station, Socorro, NM 87801 (out-of-state: 1-800/428-8324; in New Mexico: 505/835-5424 (collect); in Albuquerque: 505/865-3353).

NEW YORK

COMMUTER

ADELPHI UNIVERSITY. PROJECT CHEMISTRY. RESEARCH: chemistry. ENROLLMENT: 10. GRADE(S): 11/12. QUALIFIERS: transcript; recommendation of science faculty person. DURATION/DATES: 5 weeks (7/5-8/12). EST. COST: $350. SCHOLARSHIPS: full tuition is $630, scholarship is difference. APPLICATION DEADLINE: 5/15. CONTACT: Professor Joseph Landesberg, Department of Chemistry, Adelphi University, Garden City, NY 11530 (516/294-8700).

BROOKLYN COLLEGE OF THE CITY UNIVERSITY OF NEW YORK. HIGH SCHOOL ENRICHMENT PROGRAM. COURSES: biology; chemistry; computer science; geology; mathematics; physics. ENROLLMENT: 100. GRADE(S): 11/12. QUALIFIERS: 90 H.S. average; 1000 combined score on SAT or equivalent on PSAT; and recommendations. DURATION/DATES: academic year and/or summer. EST. COST: $31.35 fee. SCHOLARSHIPS: none. APPLICATION DEADLINE: 11/15 (spring); 5/1 (summer and fall). CONTACT: Dr. Mary Oestereicher, Associate Dean, College of Liberal Arts and Sciences, Brooklyn College, Brooklyn, NY 11210 (718/780-5771).

BROOKLYN COLLEGE OF THE CITY UNIVERSITY OF NEW YORK. SPECIAL HIGH SCHOOL ENRICHMENT PROGRAM. COURSES: biology; chemistry; computer science; geology; mathematics; physics. ENROLLMENT: 25. GRADE(S): 11/12. QUALIFIERS: H.S. grades; SAT or PSAT scores; recommendations of counselors and teachers. DURATION/DATES: academic year and/or summer. EST. COST: $31.35 fee. SCHOLARSHIPS: none. APPLICATION DEADLINE: 11/15 (spring); 5/1 (summer and fall). CONTACT: Dr. Mary Oestereicher, Associate Dean, College of Liberal Arts and Sciences, Brooklyn College, Brooklyn, NY 11210 (718/780-5771).

CITY COLLEGE OF THE CITY UNIVERSITY OF NEW YORK. BRIDGE TO MEDICINE. RESEARCH/COURSES: chemistry; precalculus; calculus; English. ENROLLMENT: 60. GRADE(S): 12. QUALIFIERS: 85 or better GPA; 80-90 GPA in biology, chemistry, 3rd year mathematics; top 10% of class. DURATION/DATES: academic year and summer. EST. COST: none. SCHOLARSHIPS: car fare. APPLICATION DEADLINE: 4/31. CONTACT: Ms. Jocelyn Jerome and Dr. Morton Slater, Admissions, City College, 138th Street and Convent Avenue, New York, NY 10031 (212/690-8256/57; 212/690-8183).

CITY COLLEGE OF THE CITY UNIVERSITY OF NEW YORK. GATEWAY TO HIGHER EDUCATION. RESEARCH/COURSES: biology; chemistry; physics; biochemistry; mathematics to calculus. ENROLLMENT: 150. GRADE(S): 9-12. QUALIFIERS: New York City reading/math grade level; 85% average; motivation for careers in science, research, medicine, mathematics, computer technology, and engineering; underrepresented minorities. DURATION/DATES: four year program, including summer. Programs offered at John F. Kennedy H.S. (Bronx); Port Richmond H.S. (Staten Island); Brooklyn Technical H.S.; and Jamaica H.S. (Queens). EST. COST: none. SCHOLARSHIPS: stipends for students. APPLICATION DEADLINE: spring of 8th grade. CONTACT: Elisabeth Iler and Dr. Morton Slater, CUNY Medical School, City College of New York, Room 907J, 138th Street and Convent Avenue, New York, NY 10031 (212/690-8256/57 or 718/523-0960/62).

CITY COLLEGE OF THE CITY UNIVERSITY OF NEW YORK. SELECT PROGRAM IN SCIENCE AND ENGINEERING (SPISE). COURSES: mathematics; physics; chemistry; meteorology; mechanical engineering; electrical engineering; civil engineering; chemical engineering. ENROLLMENT: 480. GRADE(S): 10/11. QUALIFIERS: test; teacher recommendation. DURATION/DATES: academic year. EST. COST: transportation. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 9/25. CONTACT: Professor Alfred S. Posamentier and Professor Demos Eitzer, The City College, Convent Avenue at 138th Street, New York, NY 10031 (212/690-5471).

CLARKSON SCHOOL. PROJECT CHALLENGE. COURSES: biology; chemistry; computers; engineering; psychology. ENROLLMENT: 150. GRADE(S): 10/11/12. QUALIFIERS: keen interest in science, mathematics, and engineering. DURATION/DATES: 7 weeks (2/6-3/19). EST. COST: $115 (school district pays for most). SCHOLARSHIPS: none. APPLICATION DEADLINE: 1/20. CONTACT: Gary F. Kelly, Headmaster, Price Hall, The Clarkson School, Clarkson University, Potsdam, NY 13676 (315/268-4434).

COLGATE UNIVERSITY. COMMUNITY STUDENT PROGRAM. COURSES: mathematics; biology; chemistry; physics; geology; computer science; psychology. ENROLLMENT: 5. GRADE(S): 11-12. QUALIFIERS: recommendation from H.S.; 85% H.S. average. DURATION/DATES: academic year. EST. COST: $150/term (only one subject/term allowed). SCHOLARSHIPS: yes. APPLICATION DEADLINE: none. CONTACT: Martha Dietz, Associate Dean, Colgate University, Hamilton, NY 13346 (315/824-1000, x 216).

COLUMBIA UNIVERSITY. SCIENCE HONORS PROGRAM. COURSES: multidiscipline: physical, life and mathematical sciences. ENROLLMENT: 350. GRADE(S): 11/12 (some 10). QUALIFIERS: special examination, with H.S. grades and recommendations and aptitude exams, only after nomination by the H.S.. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: January. CONTACT: Professor Allan M. Sachs, Box 43, Pupin Labs, Columbia University, New York, NY 10027 (212/280-3354).

HAMILTON COLLEGE. HIGH SCHOOL STUDENT PROGRAM. COURSES: physics; chemistry; biology; geology; mathematics; computer science. ENROLLMENT: 10. GRADE(S): 10/11/12. QUALIFIERS: H.S. transcript; recommendation from school and teacher. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 9/1. CONTACT: Douglas C. Thompson, Dean of Admission, Hamilton College, Clinton, NY 13323 (315/859-4421).

HUNTER COLLEGE, CITY UNIVERSITY OF NEW YORK. HUNTER COLLEGE COURSES FOR QUALIFIED HIGH SCHOOL STUDENTS. COURSES: college level courses (no remediation) in biology; chemistry; computer science; geography; geology; mathematics; physics. ENROLLMENT: 50/semester. GRADE(S): 11/12. QUALIFIERS: highly motivated; H.S. students attending New York City public schools; students must have completed any prerequisite courses; strong recommendation from H.S. science teachers required. DURATION/DATES: academic year. EST. COST: $14.85 (student activity fee). SCHOLARSHIPS: regular college course tuition is waived for all those accepted. APPLICATION DEADLINE: 5/15 (fall); 11/1 (spring). CONTACT: Dean Erwin Sleissner, Division of Sciences and Mathematics, Room 312N, Hunter College, 695 Park Avenue, New York, NY 10021 (212/772-5240 or 41).

HUNTER COLLEGE, CITY UNIVERSITY OF NEW YORK. SCIENCE LABORATORY RESEARCH OPPORTUNITIES. RESEARCH: basic research in biology; chemistry; computer science; geology and geography; mathematics; physics. ENROLLMENT: 7-10/semester. GRADE(S): 12. QUALIFIERS: students must have taken biology and chemistry (1 year each) in H.S.; physics and advanced biology and chemistry also preferred; strong recommendation from H.S. science teachers required. DURATION/DATES: academic year and 8-10 weeks during summer. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: open. CONTACT: Dean Erwin Sleissner, Division of Sciences and Mathematics, Room 312N, Hunter College, 695 Park Avenue, New York, NY 10021 (212/772-5240 or 41).

JOHN JAY COLLEGE OF CRIMINAL JUSTICE, CUNY. ADVANCED STANDING FOR COLLEGE ENTRANTS (ASCENT). COURSES: biology; chemistry; physics; calculus; modern math; statistics. ENROLLMENT: 225. GRADE(S): 11/12. QUALIFIERS: 80% H.S. average; 12th grade reading level; guidance counselor recommendation; mathematics placement exam. DURATION/DATES: academic year. EST. COST: $24.85 student fee, books, transportation. SCHOLARSHIPS: tuition is waived. APPLICATION DEADLINE: 6/30 (fall); 12/31 (spring). CONTACT: Paul A. Wyatt, John Jay College of Criminal Justice, 445 W. 59 Street, New York, NY 10019 (212/489-3508).

LONG ISLAND UNIVERSITY, BROOKLYN CAMPUS. STUDENT SCIENCE TRAINING PROGRAM FOR HIGH ABILITY STUDENTS. RESEARCH: biology; chemistry; pharmacology; toxicology. ENROLLMENT: 15. GRADE(S): 11/12. QUALIFIERS: class rank; course background. DURATION/DATES: 8 weeks (6/27-8/19). EST. COST: $1,050 (commuter, credit); $800 (commuter, no credit). SCHOLARSHIPS: limited, based on need. APPLICATION DEADLINE: 4/1. CONTACT: Charles D. Duggan, Office of Special Programs, C.W. Post Campus of Long Island University, Brookville, NY 11548 (516/299-2211).

MANHATTAN COLLEGE ROOSEVELT HIGH SCHOOL. HIGH SCHOOL ARTICULATION PROGRAM. COURSES: mathematics (college calculus). ENROLLMENT: 20-25. GRADE(S): 12. QUALIFIERS: self-selected; approved by H.S. faculty. DURATION/DATES: academic year. EST. COST: $75/semester. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: none. CONTACT: Dr. George L. McGeary, Assistant Dean, School of Arts and Sciences, Manhattan College, Riverdale, NY 10471 (212/920-0345).

*MANHATTANVILLE COLLEGE AND WOODLANDS HIGH SCHOOL (GREENBURGH CENTRAL #7). SCIENCE AND TECHNOLOGY EDUCATION PROGRAM (STEP). COURSES: workshops in research procedures in biology; psychology; chemistry; mathematics; economics. ENROLLMENT: 20. GRADE(S): 9/10. QUALIFIERS: underrepresented minorities who have demonstrated aptitude for mathematics and sciences; recommendations; application. DURATION/DATES: begins in summer and continues into academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/15. CONTACT: Frances Rust and Judith McQuade, Department of Teacher Education, Manhattanville College, Purchase, NY 10577 (914/694-2200, x 283). *Planned, but not definite.

NEW YORK ACADEMY OF SCIENCES. SCIENCE RESEARCH TRAINING PROGRAM. RESEARCH: sciences; mathematics; engineering. ENROLLMENT: 35 (academic year); 85-100 (summer). GRADE(S): 11/12. QUALIFIERS: academic achievement; maturity; commitment to science as a career. DURATION/DATES: 11/20-5/30 (after school during academic year); 6/27-8/5 (summer). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 10/20 (academic year); 5/12 (summer). CONTACT: Beatrice A. Klier, New York Academy of Sciences, 2 East 63rd Street, New York, NY 10021 (212/838-0230, ext. 229).

NEW YORK CITY BOARD OF EDUCATION, PROGRAM LOCATED AT SOUTH SHORE HIGH SCHOOL, BROOKLYN MATHEMATICS AND SCIENCE ACADEMY. RESEARCH/COURSES: biology; chemistry; physics; computers; mathematics; social science. ENROLLMENT: 100. GRADE(S): 10-12. QUALIFIERS: application; interest; prior success in area of interest; recommendation. DURATION/DATES: monthly meetings October to May and 6 weeks during summer (7/6-8/12). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: May. CONTACT: Mr. Alan Ascher, Project Coordinator, Brooklyn Mathematics and Science Academy, South Shore High School, 6565 Flatlands Avenue, Brooklyn, NY 11236 (718/241-3734).

PACE UNIVERSITY, DYSON COLLEGE OF ARTS AND SCIENCES. HIGH SCHOOL HONORS PROGRAM IN THE HEALTH SCIENCES. RESEARCH/COURSES: biology; nutrition; physiology; pharmacology; biochemistry. ENROLLMENT: 25. GRADE(S): 11/12. QUALIFIERS: GPA; recommendations from H.S. teacher. DURATION/DATES: academic year. EST. COST: $100 or $600. SCHOLARSHIPS: none. APPLICATION DEADLINE: 9/16. CONTACT: Dr. William P. Ventura, Pace University, Department of Biological Sciences, Pleasantville, NY 10570 (914/741-3343).

SAINT JOHN'S UNIVERSITY. SUMMER SCHOLARS PROGRAM. COURSES: non-laboratory physical and natural sciences; mathematics; environmental studies; computer science; non-science courses. ENROLLMENT: 30. GRADE(S): 12. QUALIFIERS: acceptable H.S. average; acceptable SAT/ACT scores; necessary H.S. prerequisites; permission and recommendation of H.S.. DURATION/DATES: 5 weeks (7/5-8/5). EST. COST: $100/course; $10 registration fee; $10 application fee; books. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/17. CONTACT: Marguerite M. Bagarozzi, Assistant to the Academic Vice President and Director, Special University Programs, St. John's University, Grand Central and Utopia Parkways, Jamaica, NY 11439 (718/990-6565).

STATE UNIVERSITY COLLEGE AT ONEONTA, BIOLOGICAL FIELD STATION. BIO 188: INTRODUCTION TO ECOLOGY AND FIELD BIOLOGY. COURSES: environmental biology. ENROLLMENT: 10. GRADE(S): 11/12. QUALIFIERS: nomination by teacher. DURATION/DATES: 3 weeks (July). EST. COST: $135. SCHOLARSHIPS: yes (very restricted). APPLICATION DEADLINE: variable. CONTACT: Dr. Willard Harman, Chairman, Department of Biology, State University College, Oneonta, NY 13820 (607/431-3421).

STATE UNIVERSITY COLLEGE AT ONEONTA, BIOLOGICAL FIELD STATION. BIO 199: INDEPENDENT STUDY IN BIOLOGY. RESEARCH/COURSES: environmental science (biology). ENROLLMENT: 10. GRADE(S): 11/12. QUALIFIERS: nomination by teachers; interviews; matching of faculty member and student interest. DURATION/DATES: summer. EST. COST: $45. SCHOLARSHIPS: yes (very restricted). APPLICATION DEADLINE: variable. CONTACT: Dr. Willard Harman, Chairman, Department of Biology, State University College, Oneonta, NY 13820 (607/431-3421).

STATE UNIVERSITY COLLEGE AT ONEONTA, BIOLOGICAL FIELD STATION. NEW YORK ACADEMY OF SCIENCE RESEARCH TRAINING PROGRAM TRAINEESHIPS. RESEARCH/COURSES: environmental biology. ENROLLMENT: 2. GRADE(S): 11/12. QUALIFIERS: nomination by teacher; interviews; matching of faculty member and student interest. DURATION/DATES: 6 weeks (summer). EST. COST: $45. SCHOLARSHIPS: traineeship pays approximately $500. APPLICATION DEADLINE: variable. CONTACT: Dr. Willard Harman, Chairman, Department of Biology, State University College, Oneonta, NY 13820 (607/431-3421).

STATE UNIVERSITY COLLEGE AT ONEONTA, BIOLOGICAL FIELD STATION. OCCA FHV MECKLENBURG CONSERVATION FELLOWSHIP. RESEARCH/COURSES: environmental biology. ENROLLMENT: 1-2. GRADE(S): 11/12. QUALIFIERS: nomination by teachers; interviews; matching of faculty member and student interest. DURATION/DATES: 8 weeks (summer). EST. COST: $45. SCHOLARSHIPS: fellowship pays $750. APPLICATION DEADLINE: variable. CONTACT: Dr. Willard Harman, Chairman, Department of Biology, State University College, Oneonta, NY 13820 (607/431-3421).

STATE UNIVERSITY OF NEW YORK AT BROCKPORT. 3-1-3. COURSES: biology; chemistry; physics; earth science; geology; mathematics; computer science. ENROLLMENT: 100. GRADE(S): 12. QUALIFIERS: must meet college admission's standards. DURATION/DATES: academic year. EST. COST: $600-900. SCHOLARSHIPS: few, if any. APPLICATION DEADLINE: 6/1. CONTACT: Dr. Thomas P. Bonner, Dean, Division of General Education, SUNY College at Brockport, Brockport, NY 14420 (716/395-2291).

STATE UNIVERSITY OF NEW YORK AT BUFFALO. HIGH SCHOOL INTERN PROGRAM FOR SOPHOMORES AND JUNIORS OF HIGH ABILITY. RESEARCH: biology; chemistry; geosciences; mathematics; physics; also Great Lakes field station (aquatic biology; sedimentology; toxicology). ENROLLMENT: 15. GRADE(S): 11 and some sophomores. QUALIFIERS: students are nominated and sponsored by H.S. teachers and counselors; selection is by those faculty whose research team they want to join with input from a selection committee; faculty member's decision is final. DURATION/DATES: 3 week minimum/2 month maximum (6/27-8/31). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/2. CONTACT: Vern L. Bullough, Dean, Faculty of Natural and Social Sciences, State University College at Buffalo, 1300 Elmwood Avenue, Buffalo, NY 14222 (716/878-6434).

STATE UNIVERSITY OF NEW YORK AT OSWEGO. PROGRAM FOR HIGH SCHOOL SENIORS. COURSES: calculus; others planned. ENROLLMENT: unknown. GRADE(S): 12. QUALIFIERS: recommendation of H.S. teachers. DURATION/DATES: academic year. EST. COST: unknown. SCHOLARSHIPS: unknown. APPLICATION DEADLINE: unknown. CONTACT: Linda A. Syrell, Acting Associate Dean of Arts and Science, 601 Culkin, State University of New York at Oswego, Oswego, NY 13126 (315/341-2156).

STATE UNIVERSITY OF NEW YORK AT PLATTSBURGH. BIOTECHNOLOGY AT MINER INSTITUTE. COURSES: for students interested in pre-medicine; veterinary science; farming; animal husbandry; research. ENROLLMENT: 30. GRADE(S): 5-8. QUALIFIERS: letter of recommendation from science teacher. DURATION/DATES: 2 weeks (7/20-31). EST. COST: $150. SCHOLARSHIPS: upon request. APPLICATION DEADLINE: 1 week prior to course. CONTACT: Kate Chilton, Program Coordinator, Hawkins Hall 106, SUNY Plattsburgh, Plattsburgh, NY 12901 (518/564-2050).

STATE UNIVERSITY OF NEW YORK AT PLATTSBURGH. EARLY COLLEGE PROGRAM. COURSES: biological sciences; chemistry; earth and environmental sciences; physics. ENROLLMENT: 50. GRADE(S): 10/11/12. QUALIFIERS: GPA; recommendation. DURATION/DATES: academic year. EST. COST: $135/3-credit course. SCHOLARSHIPS: none. APPLICATION DEADLINE: 1 month prior to each semester. CONTACT: Bette S. Brohel, Coordinator, Adult Learning Services, Kehoe 712, SUNY Plattsburgh, Plattsburgh, NY 12901 (518/564-2272).

STATE UNIVERSITY OF NEW YORK AT PLATTSBURGH. EXPLORATIONS IN FIELD ECOLOGY. COURSES: emphasis on plant and bird life; many phases of apiculture will be observed. ENROLLMENT: 30. GRADE(S): 5-8. QUALIFIERS: letter of recommendation from science teacher. DURATION/DATES: 2 weeks (6/22-7/3). EST. COST: $195. SCHOLARSHIPS: upon request. APPLICATION DEADLINE: 1 week prior to course. CONTACT: Kate Chilton, Program Coordinator, Hawkins Hall 106, SUNY Plattsburgh, Plattsburgh, NY 12901 (518/564-2050).

STATE UNIVERSITY OF NEW YORK AT PLATTSBURGH. SUMMER SCIENCE CAMP. COURSES: campus exploration into fields of biology and chemistry. ENROLLMENT: 30. GRADE(S): 7-12. QUALIFIERS: letter of recommendation from science teacher. DURATION/DATES: 2 weeks (7/6-17). EST. COST: $125. SCHOLARSHIPS: upon request. APPLICATION DEADLINE: 1 week prior to course. CONTACT: Kate Chilton, Program Coordinator, Hawkins Hall 106, SUNY Plattsburgh, Plattsburgh, NY 12901 (518/564-2050).

STATE UNIVERSITY OF NEW YORK AT STONY BROOK. SIMONS FELLOWSHIP PROGRAM. RESEARCH: all sciences including physical, life, natural, medical and behavioral. ENROLLMENT: 10-15. GRADE(S): 12. QUALIFIERS: academic achievement; demonstrated science/research ability; nomination by high school. DURATION/DATES: 8 weeks (6/29-8/24). EST. COST: transportation and meals. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/1. CONTACT: Dr. Laurie Johnson, Undergraduate Studies, Library E3320, State University of New York, Stony Brook, NY 11794-3351 (516/632-7080).

SUFFOLK COUNTY COMMUNITY COLLEGE. SCIENCE AND TECHNOLOGY ENTRY PROGRAM (STEP). COURSES: algebra; problem solving; biology; physics; technology; computer programming. ENROLLMENT: 240. GRADE(S): 7/8/9. QUALIFIERS: under-represented minority or economically disadvantaged; motivation; GPA; school recommendation. DURATION/DATES: academic year and summer. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: December. CONTACT: Dorothy Patrick and Nina Leonhardt, Suffolk County Community College, 533 College Road, Selden, NY 11784 (516/451-4358; 516/451-4249).

SYRACUSE UNIVERSITY. PROJECT ADVANCE. COURSES: biology; chemistry; calculus; computer science. ENROLLMENT: 2500. GRADE(S): 12. QUALIFIERS: successful completion of 11th grade H.S. curriculum; H.S. recommendation. DURATION/DATES: academic year. EST. COST: $38/credit hour. SCHOLARSHIPS: yes, for needy students. APPLICATION DEADLINE: 10/1. CONTACT: Franklin P. Wilbur, Director, Project Advance, Syracuse University, 111 Waverly Avenue, Suite 200, Syracuse, NY 13244-2320 (315/423-2404).

UNIVERSITY AT ALBANY, STATE UNIVERSITY OF NEW YORK. SCIENCE AND TECHNOLOGY ENTRY PROGRAM (STEP). COURSES: mathematics/problem solving; general biology; physics; chemistry. ENROLLMENT: 120. GRADE(S): 7-12. QUALIFIERS: underrepresented minorities and/or economically disadvantaged; GPA; interest and motivation; teacher and guidance counselor recommendation. DURATION/DATES: September 28 - June 10. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 9/25. CONTACT: Carl Martin, University at Albany, Department of Student Services, Campus Center, Room 137, Albany, NY 12222 (518/442-5490).

UNIVERSITY AT ALBANY, STATE UNIVERSITY OF NEW YORK. SPECIAL PROGRAM FOR QUALIFIED HIGH SCHOOL STUDENTS. COURSES: biology; chemistry; physics; atmospheric science (meteorology); geology; mathematics; computer science. ENROLLMENT: unknown. GRADE(S): 11/12. QUALIFIERS: GPA; recommendations; science grades; standardized tests. DURATION/DATES: academic year. EST. COST: $45/credit. SCHOLARSHIPS: none. APPLICATION DEADLINE: 8/1 (fall); 12/1 (spring). CONTACT: R. Thomas Flemming, Associate Director of Admissions, University at Albany, State University of New York, 1400 Washington Avenue, Albany, NY 12222 (518/442-5435).

UNIVERSITY AT BUFFALO, STATE UNIVERSITY OF NEW YORK. GIFTED MATH PROGRAM. COURSES: mathematics (an integrated program of enriched school and college content generating up to 22 university credits). ENROLLMENT: 250. GRADE(S): 6-12. QUALIFIERS: school or parent nomination; testing; and interviews. DURATION/DATES: academic year (9/7-6/10). EST. COST: $150/semester. SCHOLARSHIPS: all fees waived on request. APPLICATION DEADLINE: 3/15. CONTACT: Gerald R. Rising and Betty J. Krist, Co-Directors, Baldy 560, State University of New York, Buffalo, NY 14260 (716/636-3175).

UNIVERSITY AT BUFFALO, STATE UNIVERSITY OF NEW YORK. MINORITY HIGH SCHOOL STUDENT RESEARCH APPRENTICE PROGRAM. RESEARCH: biomedical science laboratory research. ENROLLMENT: 16. GRADE(S): 9-12. QUALIFIERS: school grades; counselor recommendation; interest in biomedical research; interview. DURATION/DATES: 8 weeks (6/27-8/19). EST. COST: none. SCHOLARSHIPS: each student is paid minimum wage for a 37.5 hour work week. APPLICATION DEADLINE: 5/6. CONTACT: Dr. Maggie S. Wright, University at Buffalo, SUNY, School of Medicine, 40 CFS Addition, Buffalo, NY 14214 (716/831-2811). Additional contact: Dr. H. Lorraine Oak, University at Buffalo, SUNY, Office of the Vice Provost for Research and Graduate Education, 521 Capen Hall, Buffalo, NY 14260 (716/636-2097).

UNIVERSITY AT BUFFALO, STATE UNIVERSITY OF NEW YORK. SCIENCE AND TECHNOLOGY ENRICHMENT PROGRAM (STEP). RESEARCH/COURSES: computer science; physics; chemistry; earth science; physical science; non-science; algebra; geometry; trigonometry; calculus; career exploration-engineering/architecture. ENROLLMENT: 300. GRADE(S): 7-12. QUALIFIERS: underrepresented minorities (Blacks, Hispanics, and Native Americans) and/or economically disadvantaged; income verification. DURATION/DATES: academic year and 6-week summer session. EST. COST: none. SCHOLARSHIPS: $1,000 outstanding senior. APPLICATION DEADLINE: 5/15 (summer); 8/1 (academic year). CONTACT: Mary Ann Walker, Office for University Preparatory Programs, University at Buffalo, SUNY, 19 Diefendorf Annex, Buffalo, NY 14214 (716/831-3474).

YORK COLLEGE OF THE CITY UNIVERSITY OF NEW YORK. QUEENS BRIDGE TO MEDICINE. RESEARCH/COURSES: college chemistry; calculus. ENROLLMENT: 41. GRADE(S): 12. QUALIFIERS: top 10% of class or overall 85% in H.S.; completion of H.S. chemistry and intermediate algebra/trigonometry; low income students targeted with interest in medicine/health profession. DURATION/DATES: July 1988 to May 1989. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: spring of junior year. CONTACT: Elisabeth Iler and Dr. Morton Slater, CUNY Medical School, City College of New York, Room 907J, 138th Street and Convent Avenue, New York, NY 10031 (212/690-8256/57 or 718/523-0960/62).

COMMUTER/RESIDENTIAL

CORNELL UNIVERSITY. SUMMER COLLEGE. EXPLORATIONS: explorations in engineering; explorations in biology and the health professions; explorations in veterinary medicine; explorations in high yield exotic crops. ENROLLMENT: 40/program. GRADE(S): 12 or precollege freshmen. QUALIFIERS: grades; PSAT scores; recommendations from teachers and guidance counselors; essays. DURATION/DATES: 6 weeks (6/25-8/9). EST. COST: $2,750 (residential); commuter cost unknown. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/20. CONTACT: Cornell University, Summer College, P.O. Box 860, B-12 Ives Hall, Ithaca, NY 14853 (607/255-6203).

LONG ISLAND UNIVERSITY, C.W. POST CAMPUS. STUDENT SCIENCE TRAINING PROGRAM FOR HIGH ABILITY STUDENTS. RESEARCH: biology; geology; physics; psychology. ENROLLMENT: 10. GRADE(S): 11/12. QUALIFIERS: class rank; course background. DURATION/DATES: 8 weeks (6/27-8/19). EST. COST: $2,090 (room, board, credit); $1,840 (room, board, no credit); $1,050 (commuter, credit); $800 (commuter, no credit). SCHOLARSHIPS: limited, based on need. APPLICATION DEADLINE: 4/1. CONTACT: Charles D. Duggan, Office of Special Programs, C.W. Post Campus of Long Island University, Brookville, NY 11548 (516/299-2211).

LONG ISLAND UNIVERSITY, C.W. POST CAMPUS. STUDENT SCIENCE TRAINING PROGRAM FOR HIGH ABILITY STUDENTS. RESEARCH: mathematics. ENROLLMENT: 15. GRADE(S): 11/12. QUALIFIERS: class rank; course background. DURATION/DATES: 8 weeks (6/27-8/19). EST. COST: $1,830 (room, board, credit); $1,580 (room, board, no credit); $1,050 (commuter, credit); $800 (commuter, no credit). SCHOLARSHIPS: limited, based on need. APPLICATION DEADLINE: 4/1. CONTACT: Charles D. Duggan, Office of Special Programs, C.W. Post Campus of Long Island University, Brookville, NY 11548 (516/299-2211).

MANHATTAN COLLEGE. PRE-CAP (PRE-ENGINEERING COMPREHENSIVE ACHIEVEMENT PROGRAM). COURSES: algebra; geometry; trigonometry; engineering disciplines; computer science; chemistry; physics; aerospace; study skills; communication skills. ENROLLMENT: 50 (summer); 200-250 (academic year). GRADE(S): 9-12 and 7/8. QUALIFIERS: recommendations; science and mathematics grades; motivation and interest. DURATION/DATES: academic year and 5-week summer program. EST. COST: none. SCHOLARSHIPS: yes (generally no charge to students). APPLICATION DEADLINE: 6/15 (summer); academic year deadline unknown. CONTACT: Ismael Dias, School of Engineering, Manhattan College, Riverdale, NY 10471 (212/920-0281).

PACE UNIVERSITY, NEW YORK CITY CAMPUS. MICROBIAL PHYSIOLOGY AND BIOCHEMISTRY. RESEARCH/COURSES: biological and biochemical sciences. ENROLLMENT: 12. GRADE(S): 11 (primarily). QUALIFIERS: letters of recommendation from high school instructors. DURATION/DATES: academic year and 6-8 weeks during summer (7/1-8/15 or 7/1-8/31). EST. COST: transportation. SCHOLARSHIPS: none at present. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Dudley Cox, Pace University, Biological Sciences, New York Campus, Pace Plaza, New York, NY 10038 (212/488-1504, 1895, 1373).

ROSWELL PARK MEMORIAL INSTITUTE. SUMMER RESEARCH PARTICIPATION PROGRAM. RESEARCH: basic cancer research; biochemistry; cellular-molecular biology; immunology; pharmacology; chemistry; physiology; epidemiology. ENROLLMENT: 40. GRADE(S): 12. QUALIFIERS: high GPA; letters of recommendation; commitment to a research career. DURATION/DATES: 8 weeks (6/22-8/14). EST. COST: none. SCHOLARSHIPS: approximately 10 minority H.S. fellowships. APPLICATION DEADLINE: 3/12. CONTACT: Dr. Edwin A. Mirand, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, NY 14263 (716/845-2339).

SAINT BONAVENTURE UNIVERSITY. GIANT STEP. COURSES: mathematics; computer science; physics; chemistry; biology. ENROLLMENT: 20. GRADE(S): 11/12. QUALIFIERS: H.S. performance; letters of recommendation. DURATION/DATES: academic year and summer. EST. COST: $525/course. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 2 weeks before course. CONTACT: Ms. Carol Wittmeyer, Registrar, St. Bonaventure University, St. Bonaventure, NY 14778 (716/375-2020).

SIENA COLLEGE. FUTURES IN COMPUTING. COURSES: computer science. ENROLLMENT: 70. GRADE(S): 11. QUALIFIERS: one semester of H.S. computing course. DURATION/DATES: 3 days (6/29-7/1). EST. COST: $105 (commuter); $155 (residential). SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/15. CONTACT: Dr. Albert Holliday and Ms. Johanna Horowitz, Computer Science Department, Siena College, Loudonville, NY 12211 (518/783-2440).

SYRACUSE UNIVERSITY. SUMMER COLLEGE. COURSES: freshman and sophomore level classes in all areas of liberal arts and sciences. ENROLLMENT: 175. GRADE(S): 10/11/12. QUALIFIERS: B+ average; transcript; letters of recommendation. DURATION/DATES: 6 weeks (7/3-8/13). EST. COST: $1,875 (includes housing). SCHOLARSHIPS: limit, merit based. APPLICATION DEADLINE: 5/15. CONTACT: Lisa Lessun, Syracuse University, Division of Summer Sessions, Suite 230, 111 Waverly Avenue, Syracuse, NY 13244-2320 (315/423-4181).

UNION COLLEGE. THE COLLEGE EXPERIENCE. COURSES: offerings vary, but probably biology; mathematics; computer science; engineering; psychology. ENROLLMENT: 80. GRADE(S): 12. QUALIFIERS: academic ability; intellectual and social maturity; H.S. transcript; PSAT or SAT scores; essay by applicant. DURATION/DATES: 6 weeks (6/26-8/5). EST. COST: $2,200 (residential); $1,200 (commuter). SCHOLARSHIPS: yes, based on need. APPLICATION DEADLINE: 5/23. CONTACT: Dr. Joan Krejci, Associate Dean, Union College, Graduate and Continuing Studies, Wells House, 1 Union Avenue, Schenectady, NY 12308 (518/370-6641).

UNIVERSITY AT ALBANY, STATE UNIVERSITY OF NEW YORK. SPECIAL PROGRAM FOR QUALIFIED HIGH SCHOOL STUDENTS. COURSES: biology; chemistry; physics; atmospheric science (meteorology); geology; math; computer science. ENROLLMENT: unknown. GRADE(S): 11/12. QUALIFIERS: GPA; recommendations; standardized test scores; science grades. DURATION/DATES: 7 weeks (6/20-8/8). EST. COST: $45/credit. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1. CONTACT: R. Thomas Flemming, Associate Director of Admissions, University at Albany, State University of New York, 1400 Washington Avenue, Albany, NY 12222 (518/442-5431).

UNIVERSITY AT BUFFALO, STATE UNIVERSITY OF NEW YORK. ADVANCED COLLEGE CREDIT PROGRAM. RESEARCH/COURSES: elementary and advanced courses in chemistry; physics; mathematics; biology. ENROLLMENT: 25-30. GRADE(S): 11/12. QUALIFIERS: strong performance in H.S. course work, especially in area designated for advanced study. DURATION/DATES: academic year and summer. EST. COST: $45/credit hour (in-state); $107/credit hour (out-of-state). SCHOLARSHIPS: none. APPLICATION DEADLINE: approximately 3 weeks before each semester begins. CONTACT: Josephine A. Capuana, University Honors Program, 547 Capen Hall, University at Buffalo, SUNY, Buffalo, NY 14260 (716/636-3020).

UNIVERSITY AT BUFFALO, STATE UNIVERSITY OF NEW YORK. SUMMER HONORS RESEARCH PROGRAM. RESEARCH: engineering research labs. ENROLLMENT: 8. GRADE(S): 9-12 (2 each). QUALIFIERS: minority and female students in the first quartile of their class with apparent aptitude for math and science. DURATION/DATES: 8 weeks (7/1-8/26). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/1. CONTACT: Dr. Robert E. Barnes, Director of External Affairs, c/o SUNYAB, Attn: BEAM, Inc., 412 Bonner Hall, Amherst, NY 14260 (716/636-2768 or 3066).

UNIVERSITY AT BUFFALO, STATE UNIVERSITY OF NEW YORK. SUMMER PRE-ENGINEERING PROGRAM. COURSE: engineering (mathematics; physics; and chemistry). ENROLLMENT: 40. GRADE(S): 12. QUALIFIERS: completed Regents course III (math); physics and H.S. chemistry with above average grades; SAT scores of 1100 (over 500 in math). DURATION/DATES: 6 weeks (7/1-8/12). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/1. CONTACT: Dr. Steven G. Margolis, Professor, c/o SUNYAB, Attn: BEAM, Inc., 412 Bonner Hall, Amherst, NY 14260 (716/636-3066).

UNIVERSITY CENTER AT BINGHAMTON, STATE UNIVERSITY OF NEW YORK. SCIENCE AND TECHNOLOGY ENTRY PROGRAM. RESEARCH/COURSES: archaeology; biology; biochemistry; physics; psychology; engineering. ENROLLMENT: 48. GRADE(S): 10/11. QUALIFIERS: qualified minority or economically disadvantaged; able and ambitious; upper 20% of class. DURATION/DATES: 3 weeks (7/17-8/5). EST. COST: none. SCHOLARSHIPS: total scholarship to qualified NY students. APPLICATION DEADLINE: 4/15. CONTACT: Coordinator STEP Program, Office of the Summer Sessions, University Center at Binghamton, Binghamton, NY 13901 (607/777-2161).

UNIVERSITY CENTER AT BINGHAMTON, STATE UNIVERSITY OF NEW YORK. SCIENCE AND TECHNOLOGY RESEARCH PROGRAM. RESEARCH: astronomy; archaeology; biology; biochemistry; physics; psychology; engineering. ENROLLMENT: 25. GRADE(S): 11/12. QUALIFIERS: qualified minority or economically disadvantaged; able and ambitious; upper 20% of class. DURATION/DATES: 4 weeks (7/10-8/5). EST. COST: none. SCHOLARSHIPS: total scholarships to qualified NY students. APPLICATION DEADLINE: 4/15. CONTACT: Coordinator STEP Program, Office of the

Summer Sessions, University Center at Binghamton, Binghamton, NY 13901 (607/777-2161).

RESIDENTIAL

ALFRED UNIVERSITY, NYS COLLEGE OF CERAMICS. 13TH ANNUAL SUMMER INSTITUTE IN SCIENCE AND ENGINEERING FOR HIGH SCHOOL JUNIORS. COURSES: engineering; chemistry; physics; biology; ceramics. ENROLLMENT: 80-120. GRADE(S): 12. QUALIFIERS: class rank; recommendations from teachers. DURATION/DATES: 1 week (6/27-7/1). EST. COST: $240 (complete with room and board). SCHOLARSHIPS: yes, full and partial. APPLICATION DEADLINE: 5/30. CONTACT: Professor W.A. Earl, NYS College of Ceramics, Alfred University, Alfred, NY 14802 (607/871-2462).

CLARKSON SCHOOL/CLARKSON UNIVERSITY. SCOPES: SUMMER COLLEGE ORIENTATION PROGRAM IN ENGINEERING, SCIENCE AND MANAGEMENT. RESEARCH/COURSES: all science, mathematics, engineering, and business courses are designed to help H.S. students make decisions about their future careers and to inform them about college courses needed to fulfill their career goals. ENROLLMENT: 80. GRADE(S): 12. QUALIFIERS: PSAT scores; career interest; application; letter of recommendation; transcript. DURATION/DATES: 1 week (6/25-7/1). EST. COST: $325. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 6/1. CONTACT: Richard T. Watkins, Director of Administration, Price Hall, The Clarkson School, Clarkson University, Potsdam, NY 13676 (315/268-4425).

CLARKSON UNIVERSITY. THE CLARKSON SCHOOL. RESEARCH/COURSES: students take freshmen-level courses, along with Clarkson University freshmen; courses are taught by University faculty members; students complete their senior year of H.S. and first year of college in one year. ENROLLMENT: 50. GRADE(S): 12. QUALIFIERS: nearly all students rank in upper 10% of H.S. class; transcript; 2 recommendations; PSAT/SAT math scores close to 600; campus visit. DURATION/DATES: academic year. EST. COST: $13,850. SCHOLARSHIPS: full range available. APPLICATION DEADLINE: 6/1. CONTACT: Gary F. Kelly, Headmaster, Price Hall, The Clarkson School, Clarkson University, Potsdam, NY 13676 (315/268-4434).

LONG ISLAND UNIVERSITY, SOUTHAMPTON CAMPUS. STUDENT SCIENCE TRAINING PROGRAM FOR HIGH ABILITY STUDENTS. RESEARCH: marine biology; marine chemistry. ENROLLMENT: 5. GRADE(S): 11/12. QUALIFIERS: class rank; course background. DURATION/DATES: 8 weeks (6/27-8/19). EST. COST: $2,090 (room, board, credit); $1,840 (room, board, no credit). SCHOLARSHIPS: limited, based on need. APPLICATION DEADLINE: 4/1. CONTACT: Charles D. Duggan, Office of Special Programs, C.W. Post Campus of Long Island University, Brookville, NY 11548 (516/299-2211).

ROBERTS WESLEYAN COLLEGE. HIGH SCHOOL RESEARCH INTERFACE. RESEARCH: biochemistry; molecular biology; analysis of topoisomerase genes; function and regulation. ENROLLMENT: 3-8. GRADE(S): 11. QUALIFIERS: chemistry course completed; recommendation of H.S. teachers. DURATION/DATES: 1 week (tentatively 6/20-24). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: unknown. CONTACT: David E. Roll, Roberts Wesleyan College, 2301 Westside Drive, Rochester, NY 14624 (716/594-9471, ext. 138).

SOUTHAMPTON COLLEGE OF LONG ISLAND UNIVERSITY. INTRODUCTION TO MARINE SCIENCE. COURSES: marine science. ENROLLMENT: 30. GRADE(S): 11/12. QUALIFIERS: combined SAT of 950; H.S. GPA of 80%. DURATION/DATES: three 1-week sessions (June-August). EST. COST: $200. SCHOLARSHIPS: 2/session. APPLICATION DEADLINE: 5/30. CONTACT: Brian Carroll, Admissions Office, Southampton College, Southampton, NY 11968 (516/283-4000, ext. 120).

CLASSIC BOOKS ON TALENT AND CREATIVITY

The seminal writings in a field are not always the ones just off the press, as the Citation Index shows. These outstanding books are well worth reading for anyone who is interested in scientific talent and its development. They are all highly recommended.

Developing Talent in Young People. Benjamin S. Bloom, editor.

Presents the results of a four-year research study done by a team of researchers at the University of Chicago. Top achievers in six fields (mathematics, neurology, swimming, tennis, concert piano and sculpture) were studied. Interviews were conducted with them, as well as with members of families, teachers, etc. The final report shows remarkable similarities among fields in the developmental process, and the role of parents, teachers, and others in teaching, motivating and supporting the individuals until they reached the highest levels of achievement.

Ballantine Books, 1985, 559 pages, 5½" x 8½" paper, $9.95.

Creativity: Genius and Other Myths. Robert W. Weisberg.

Does creativity involve great leaps of imagination? Are creative individuals possessed of some special characteristic called "genius"? In this book the author shows that much of what we believe about creativity is not true. Beginning with an example of a creative solution to a real-life problem, he analyzes the traditional literature, arguing that creative responses evolve incrementally and through a straightforward series of conscious steps. Examples are taken from science, art, music and literature.

W.H. Freeman, 1986, 169 pages, 8" x 9⅛", paper, $9.95.

The Psychology of Creativity and Discovery: Scientists and Their Work. Richard S. Mansfield and Thomas V. Busse.

Appraises creativity research in the areas of psychological testing, child-rearing influences on creativity, and the creative process itself. The focus is on real-life performance. The authors synthesize studies and process accounts into a unified picture of the characteristics, antecedents and workings of scientific creativity, as well as the links between these areas. However it is emphasized that the book is a foundation for further research and not the final word on the controversial area of creativity.

Nelson-Hall, 1981, 159 pages, 6¾" x 8¾", hardcover, $19.95.

To order these books, send a check for the price of the book plus $1.00 handling for each book. Make check payable to Science News Books.
Mail order to:

Science News Books
1719 N St. NW
Washington DC 20036

The following book is not for sale, but it is also recommended if a copy can be found.
The Making of a Scientist. Anne Roe. Dodd Mead, 1952.

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UNION COLLEGE. THE COLLEGE EXPERIENCE IN ENGLAND OR FRANCE. COURSES: philosophy; French; English; history. ENROLLMENT: 50. GRADE(S): 12. QUALIFIERS: academic ability; intellectual and social maturity; H.S. transcript; PSAT or SAT scores; essay by applicant. DURATION/DATES: 6 weeks (6/26-8/5). EST. COST: Fee includes transportation, tuition, room and board. $3,185 at Cambridge University, England or $2,990 at University of Tours, France. SCHOLARSHIPS: none. APPLICATION DEADLINE: 4/4. CONTACT: Dr. Joan Krejci, Associate Dean, Union College, Graduate and Continuing Studies, Wells House, 1 Union Avenue, Schenectady, NY 12308 (518/370-6641).

UNITED STATES MILITARY ACADEMY. INVITATIONAL ACADEMIC WORKSHOP. RESEARCH/COURSES: mathematics; sciences; engineering. ENROLLMENT: 400. GRADE(S): 12. QUALIFIERS: PSAT; grades; activities; recommendations. DURATION/DATES: 1 week during summer. EST. COST: to be determined. SCHOLARSHIPS: yes for minorities. APPLICATION DEADLINE: 4/30. CONTACT: Mrs. Betty Bray, Office of Admissions, United States Military Academy, West Point, NY 10996 (914/938-4041).

NORTH CAROLINA

COMMUTER

NORTH CAROLINA WESLEYAN COLLEGE. SCIENTIFIC SUMMER. COURSES: mathematics; computer science; biology; physical science. ENROLLMENT: 24/section. GRADE(S): 3-6. QUALIFIERS: teacher recommendation; high interest in science. DURATION/DATES: three 1-week sessions (July-August). EST. COST: $125. SCHOLARSHIPS: two are available. APPLICATION DEADLINE: registration begins in May and is kept open until camp fills, usually about 6 weeks. CONTACT: Dr. Marshall Brooks, Dean of the College, North Carolina Wesleyan College, Wesleyan College Station, Rocky Mount, NC 27804 (919/977-7171).

WINGATE COLLEGE. SAM (SUMMER ACHIEVEMENT MODULE). COURSES: computers. ENROLLMENT: 90. GRADE(S): 1-10. QUALIFIERS: interest in computers; above average academically; able to follow direction. DURATION/DATES: three 1-week sessions (6/13-7/1). EST. COST: $145. SCHOLARSHIPS: none. APPLICATION DEADLINE: 4/15. CONTACT: Gladys Kerr, Box 3019, Wingate College, Wingate, NC 28174 (704-233-4061, ext. 8158).

COMMUTER/RESIDENTIAL

FAYETTEVILLE STATE UNIVERSITY. INTENSIVE STUDIES PROGRAM. COURSES: science; mathematics; language arts. ENROLLMENT: 50. GRADE(S): 12. QUALIFIERS: none. DURATION/DATES: 6 weeks (July/August). EST. COST: $520. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/26. CONTACT: Mr. Willie Beasley, Fayetteville State University, Continuing Education Center, Fayetteville, NC 28301 (919/486-1225).

RESIDENTIAL

APPALACHIAN STATE UNIVERSITY. HISTORY OF ENGLAND. RESEARCH/COURSES: travel to Canterbury, Salisbury and London, and study science, literature, and history in England. ENROLLMENT: 25. GRADE(S): 10/11/12. QUALIFIERS: 120 IQ; high interest in science, literature, writing and travel; high creativity; recommendation; achievement test 2 levels above placement. DURATION/DATES: 2 weeks (7/11-26). EST. COST: $2,500. SCHOLARSHIPS: none. APPLICATION DEADLINE: as soon as possible. CONTACT: Dr. John Tashner, Department of Educational Foundations, Appalachian State University, Boone, NC 28608 (704/262-2269).

APPALACHIAN STATE UNIVERSITY. MARINE BIOLOGY IN THE CARIBBEAN. RESEARCH/COURSES: study biology, chemistry, and geology at St. John's Environmental Research Station. Sailing around British Virgin Islands with diving and snorkeling daily. ENROLLMENT: 25. GRADE(S): 7-12. QUALIFIERS: 120+ IQ; achievement test 2 levels above placement; high interest in science; high creativity; school recommendations. DURATION/DATES: 2 weeks (7/31-8/13). EST. COST: $1,995. SCHOLARSHIPS: none. APPLICATION DEADLINE: as soon as possible. CONTACT: Dr. John Tashner, Department of Educational Foundations, Appalachian State University, Boone, NC 28608 (704/262-2269).

APPALACHIAN STATE UNIVERSITY. SUMMER SCIENCE PROGRAM FOR GIFTED/TALENTED SECONDARY STUDENTS. RESEARCH/COURSES: biology; chemistry; physics; computer science; psychology; philosophy; physiology, foreign affairs, creative/technical writing. ENROLLMENT: 120/session. GRADE(S): 7-12. QUALIFIERS: 120+ IQ; achievement test 2 levels above placement; high interest in science; high creativity; school recommendation. DURATION/DATES: two 2-week sessions (6/12-25; 6/26-7/9). EST. COST: $525. SCHOLARSHIPS: very few. APPLICATION DEADLINE: 4/1. CONTACT: Dr. John Tashner, Department of Educational Foundations, Appalachian State University, Boone, NC 28608 (704/262-2269).

BENNETT COLLEGE AND NORTH CAROLINA A&T STATE UNIVERSITY. INTENSIVE SUMMER SCIENCE PROGRAM. COURSES: mathematics (through calculus); science (biology, chemistry, physics); computer science (BASIC, PASCAL, FORTRAN); communication skills. ENROLLMENT: 125. GRADE(S): 9/10/11. QUALIFIERS: letter of recommendation; student interest; H.S. transcript. DURATION/DATES: 4 weeks (6/15-7/10). EST. COST: $400. SCHOLARSHIPS: yes (limited). APPLICATION DEADLINE: 4/30. CONTACT: Dr. Nellouise D. Watkins, Bennett College, 900 E. Washington Street, Greensboro, NC 27401 (919/370-8684). Additional contact: Dr. N. Manuel, Department of Mathematics, North Carolina A&T State University, Greensboro, NC 27411 (919/334-7822).

DAVIDSON COLLEGE. DAVIDSON JULY EXPERIENCE. COURSES: biology; economics; history; English; mathematics; philosophy; physics; political science. ENROLLMENT: 100. GRADE(S): 12. QUALIFIERS: these experiences are for young men and women who are highly motivated, academically oriented, and self-disciplined; applicants are expected to have strong records and to be highly recommended by the principal and the counselor of the secondary school attended. DURATION/DATES: 4 weeks (7/3-29). EST. COST: $1,135. SCHOLARSHIPS: limited. APPLICATION DEADLINE: 5/1. CONTACT: John Kello, Director, Davidson July Experience, Davidson College, Davidson, NC 28036 (704/892-2000, ext. 130).

DUKE UNIVERSITY. PRECOLLEGE PROGRAM. COURSES: biology; astronomy; computer science for engineering; calculus; intermediate calculus. ENROLLMENT: 110. GRADE(S): 12. QUALIFIERS: academic ability; motivation; emotional maturity; likelihood of contribution to the program. DURATION/DATES: 6.5 weeks (6/26-8/12). EST. COST: $2,300. SCHOLARSHIPS: about 15% of students receive financial aid. APPLICATION DEADLINE: 3/15. CONTACT: Lucy Haagen, Precollege Program, P.O. Box 40077, Duke University, Durham, NC 27706-0077 (919/684-3847).

DUKE UNIVERSITY. TALENT IDENTIFICATION PROGRAM SUMMER RESIDENTIAL PROGRAM. COURSES: biology; chemistry; physics; animal behavior; precalculus mathematics sequence; discrete mathematics; number theory. ENROLL-

MENT: 400/term or 800. GRADE(S): 8-11. QUALIFIERS: minimum SAT-ACT scores listed in bulletin (available upon request). DURATION/DATES: two 3-week terms (6/22-7/16; 7/23-8/13). EST. COST: $1,200-1,400. SCHOLARSHIPS: financial aid available. APPLICATION DEADLINE: 4/30 (early application is recommended). CONTACT: Lucy Haagen, Assistant Director for Educational Programs, Talent Identification Program, P.O. Box 40077, Duke University, Durham, NC 27706-0077 (919/684-3847).

UNIVERSITY OF NORTH CAROLINA (6 CAMPUSES: UNC-WILMINGTON, EAST CAROLINA UNIVERSITY, NORTH CAROLINA CENTRAL UNIVERSITY, UNC-CHARLOTTE, APPALACHIAN STATE UNIVERSITY, AND WESTERN CAROLINA UNIVERSITY). SUMMER VENTURES IN SCIENCE AND MATHEMATICS. RESEARCH/COURSES: natural and physical sciences; mathematics; computer science; career exploration; communication skills; social issues. ENROLLMENT: 720. GRADE(S): 11/12. QUALIFIERS: grades; CAT scores; interest in science/mathematics; maturity; North Carolina residence. DURATION/DATES: two 5-week sessions (6/26-7/29; 7/10-8/12). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 1/29. CONTACT: J. Keith Brown, Summer Ventures in Science and Mathematics, P.O. Box 2976, Durham, NC 27705 (919/286-3366).

UNIVERSITY OF NORTH CAROLINA AT ASHEVILLE. ENGINEERING INSTITUTE. RESEARCH/COURSES: engineering statics; engineering mathematics; computing with super minis and micros. ENROLLMENT: 30. GRADE(S): 11/12. QUALIFIERS: must be in upper quarter of class (preference will be given to students in upper 10%); strong interest in engineering. DURATION/DATES: 3 weeks (6/12-7/1). EST. COST: $200-400. SCHOLARSHIPS: all are awarded some level. APPLICATION DEADLINE: 4/4. CONTACT: John G. Stevens, Physical Sciences and Engineering Institute, University of North Carolina at Asheville, Asheville, NC 28804 (704/251-6122).

UNIVERSITY OF NORTH CAROLINA AT ASHEVILLE. PHYSICAL SCIENCES INSTITUTE. RESEARCH/COURSES: particle physics or nuclear physics, plus matrix transformation groups and their applications. ENROLLMENT: 30. GRADE(S): 11/12. QUALIFIERS: must be in upper quarter of class (preference will be given to students in upper 10%); strong interest in science. DURATION/DATES: 3 weeks (6/12-7/1). EST. COST: $200-400. SCHOLARSHIPS: all are awarded some level. APPLICATION DEADLINE: 4/4. CONTACT: John G. Stevens, Physical Sciences and Engineering Institute, University of North Carolina at Asheville, Asheville, NC 28804 (704/251-6122).

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL. CAROLINA SUMMER: ARTS AND SCIENCES FOR ACADEMICALLY ABLE HIGH SCHOOL STUDENTS. COURSES: biology; geography; psychology; journalism; English. ENROLLMENT: 50. GRADE(S): 12. QUALIFIERS: academic ability and interest; emotional maturity; creativity. DURATION/DATES: 3 weeks (7/3-23). EST. COST: $850, plus transportation. SCHOLARSHIPS: limited. APPLICATION DEADLINE: 3/15. CONTACT: Dr. George Houston, Director, Carolina Summer, CB #3145, 212 Murphey Hall, University of North Carolina, Chapel Hill, NC 27599-3145 (919/962-7191).

UNIVERSITY OF NORTH CAROLINA AT WILMINGTON. COAST TREK: A SUMMER EXPERIENCE FOR THE ACADEMICALLY GIFTED AGES 11-14. RESEARCH/COURSES: marine science; biology. ENROLLMENT: 22. GRADE(S): ages 11-14. QUALIFIERS: must be designated academically gifted by their school system with a written confirmation from principal on school letterhead. DURATION/DATES: several 1-week sessions in June and July. EST. COST: $320. SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/1. CONTACT: Office of Special Programs, University of North Carolina at Wilmington, 601 South College Road, Wilmington, NC 28403-3297 (919/395-3195).

OHIO

COMMUTER

CASE WESTERN RESERVE UNIVERSITY. CASE EARLY EXPOSURE TO ENGINEERING FOR MINORITY STUDENTS. COURSES: mathematics (intro. to algebra II/trigonometry or geometry); chemistry; computer science (PASCAL programming). ENROLLMENT: 50. GRADE(S): 10/11. QUALIFIERS: interest in mathematics and science; enrollment in college prep curriculum; good grades and PSAT scores; good attendance. DURATION/DATES: 5 weeks (July). EST. COST: none, students receive a small stipend to cover the cost of their food and transportation. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/30. CONTACT: Margaret E. Boulding, Baker Building, Room 116, Case Western Reserve University, Cleveland, OH 44106 (216/368-2904).

CASE WESTERN RESERVE UNIVERSITY. MINORITY ENGINEERS INDUSTRIAL OPPORTUNITY PROGRAM (MEIOP). COURSES: mathematics; physics (including laboratory sessions); expository writing and speech; hands-on engineering project. ENROLLMENT: 25-35. GRADE(S): 12. QUALIFIERS: interest in mathematics and science; motivation and responsibility; recommendations; college prep curriculum; good grades; PSAT, SAT,or ACT scores, if available. DURATION/DATES: 5 weeks (July). EST. COST: none, students receive a small stipend to cover the cost of their food and transportation. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/30. CONTACT: Margaret E. Boulding, Baker Building, Room 116, Case Western Reserve University, Cleveland, OH 44106 (216/368-2904).

DEFIANCE COLLEGE. EARLY ADMISSION. COURSES: biological science; chemistry; physics; computer science; mathematics. ENROLLMENT: 2-3. GRADE(S): 11/12. QUALIFIERS: 3.0 minimum GPA; recommended by H.S. counselor; application submitted in person. DURATION/DATES: academic year and summer (5/30-6/29; 7/3-8/3). EST. COST: $110/semester hour. SCHOLARSHIPS: none (area students 1/2 price). APPLICATION DEADLINE: two weeks prior to the start of any term. CONTACT: Dr. Robert M. Goffga, Associate Academic Dean, The Defiance College, Defiance, OH 43512 (419/784-4010).

HEIDELBERG COLLEGE. EXCEPTIONAL HIGH SCHOOL SENIORS AT HEIDELBERG. COURSES: mathematics; computer science; biology; physics; chemistry; geology. ENROLLMENT: 15. GRADE(S): 12. QUALIFIERS: GPA 3.4+; rank in top 10% of H.S. class; combined score of 1200+ on SAT (or equivalency of PSAT or ACT); or recommendation of H.S. counselor or principal. DURATION/DATES: academic year and summer (6/20-7/22). EST. COST: $74/semester hour. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/13 (summer); 8/24 (fall); 1/2 (spring). CONTACT: Robert L. Joyce, Director of Lifelong Learning, Heidelberg College, 310 E. Market Street, Tiffin, OH 44883 (419/448-2095).

HIRAM COLLEGE. HIRAM SUMMER SCHOLARS. COURSES: 5 different sessions: problem solving (psychology of learning); outdoor adventures (environmental studies); astronomy (physics); animal behavior (biology); problem solving with computers (computer science/math). ENROLLMENT: 110 students; 40 public school teachers. GRADE(S): 5-8. QUALIFIERS: teacher recommendation. DURATION/DATES: 6 weeks (6/15-7/31). EST. COST: $50/session. SCHOLARSHIPS: very available for 70% of students if funding is forthcoming. APPLICATION DEADLINE: 6/1. CONTACT: Craig L. Moser, Hiram College, Hinsdale 3rd Floor, Hiram, OH 44234 (216/569-5126).

NORTHWEST OHIO AREA COUNCIL FOR TECHNOLOGY. RESEARCH APPRENTICESHIPS IN SCIENCE. RESEARCH/COURSES: all areas of science and technology. ENROLLMENT: 23. GRADE(S): 10/11. QUALIFIERS: participants selected by respective schools based upon ability and interest. DURATION/DATES: students conduct research for 8 weeks during the summer, followed by a writing session in the fall (5/28-12/8). EST. COST: none. SCHOLARSHIPS: support from academia and industry. APPLICATION DEADLINE: 3/15. CONTACT: Dr. Clarence Waldron, CAMSCO Produce Company, Inc., P-152 Road 12, P.O. Box 311, Napoleon, OH 43545-0311 (419/599-4085). Sites include University of Toledo, Bowling Green University, Medical College of Ohio, and research laboratories in area industry.

UNIVERSITY OF CINCINNATI. LABORATORY APPRENTICESHIPS IN THE BIOMEDICAL SCIENCES. RESEARCH: biochemistry; microbiology; biophysics; physiology; environmental health; pharmacology; molecular biology; civil and environmental engineering; biostatistics; robotics; basic sciences in clinical medicine. ENROLLMENT: 20. GRADE(S): 11-12. QUALIFIERS: must be AP students; recommended by H.S. science chairperson; written application. DURATION/DATES: academic year and summer. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 9/15. CONTACT: Maria Kreppel, Associate Provost, University of Cincinnati, Mail Location 97, Cincinnati, OH 45221-0097 (513/475-6932).

WALSH COLLEGE. EARLY ADMISSION PROGRAM. COURSES: multi-disciplinary. ENROLLMENT: 40. GRADE(S): 11/12. QUALIFIERS: GPA of 3.0+; recommendation of counselor. DURATION/DATES: academic year and summer. EST. COST: $15 plus books and/or lab fees. SCHOLARSHIPS: none. APPLICATION DEADLINE: 2 weeks before semester begins. CONTACT: Ms. Fran Kehoe, Walsh College, 2020 Easton Street, NW, Canton, OH 44720 [216/499-7090; 800/362-9846 (Ohio only)].

WALSH COLLEGE. EDGE PROGRAM. COURSES: biology; chemistry; computer science; humanities. ENROLLMENT: 25. GRADE(S): 7/8/9. QUALIFIERS: recommendation of counselor or teacher; and academically talented. DURATION/DATES: 2 weeks (June). EST. COST: $50-125. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/15. CONTACT: Ms. Fran Kehoe, Walsh College, 2020 Easton Street, NW, Canton, OH 44720 [216/499-7090; 800/362-9846 (Ohio only)].

COMMUTER/RESIDENTIAL

ASHLAND COLLEGE. SUMMER STUDIES IN BIOLOGY AND CHEMISTRY. RESEARCH/COURSES: biology; chemistry. ENROLLMENT: 20/session. GRADE(S): 11/12. QUALIFIERS: H.S. teacher or advisor recommendation; upper level science student. DURATION/DATES: two 4-week sessions (6/20-7/15; 7/18-8/12). EST. COST: $1,400 (includes room and board). SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Jerry J. Cole, Chemistry Department, Ashland College, Ashland, OH 44805 (419/289-4142, ext. 5268).

CASE WESTERN RESERVE UNIVERSITY. SUMMER SYMPOSIUM. COURSES: science; engineering; health science. ENROLLMENT: 35-60/program. GRADE(S): 11/12. QUALIFIERS: H.S. rank; GPA; PSAT score. DURATION/DATES: 1 week (July). EST. COST: $325. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1. CONTACT: Jamie Hobba, Assistant Director of Admissions, Office of Undergraduate Admission, Case Western Reserve University, Cleveland, OH 44106 (216/368-4450).

OHIO STATE UNIVERSITY. ENGINEERING SUMMER ACADEMY. COURSES: engineering computer graphics. ENROLLMENT: 50. GRADE(S): 11. QUALIFIERS: top 10% of H.S. class and PSAT/M 58+. DURATION/DATES: 3 weeks (6/27-7/15). EST. COST: $523 (in-state); $781 (out-of-state). SCHOLARSHIPS: yes. APPLICATION DEADLINE: 6/1 (preference to early applicants). CONTACT: James L. Marshall, Assistant Dean, College of Engineering, The Ohio State University, 2070 Neil Avenue, Columbus, OH 43210 (614/292-8228).

OHIO STATE UNIVERSITY. SUMMER ACADEMY. COURSES: mathematics (calculus); physics; chemistry; computer science; engineering graphics. ENROLLMENT: varies. GRADE(S): 11/12. QUALIFIERS: ACT/SAT/PSAT scores; recommendation from H.S. counselor; top 20% of H.S. class. DURATION/DATES: 3-, 5-, or 10-week courses (6/20-7/26; 7/27-8/31; 6/20-8/31). EST. COST: varies. SCHOLARSHIPS: no. APPLICATION DEADLINE: 5/20 (earlier desirable). CONTACT: Dolores Brzycki, University College, The Ohio State University, 1050 Carmack Road, Columbus, OH 43210 (614/292-9141).

UNIVERSITY OF TOLEDO. STUDENT RESEARCH INTERNSHIPS. RESEARCH/COURSES: chemistry and chemical engineering; mathematics; physics; computers. ENROLLMENT: 6-10. GRADE(S): 12. QUALIFIERS: mathematics and chemistry background; solid GPA. DURATION/DATES: 8 to 10 weeks (6/20-8/26). EST. COST: none. SCHOLARSHIPS: students selected are paid $4.50/hour. APPLICATION DEADLINE: apply between 4/1 and 4/30. CONTACT: Mrs. Gale Mentzer, Academic Coordinator, Department of Chemical Engineering, The University of Toledo, Toledo, OH 43606 (419/537-4400).

URSULINE COLLEGE (CLEVELAND, OHIO). NATIONAL COMPUTER CAMPS. COURSES: computer programming; computer science. ENROLLMENT: 50/week. GRADE(S): ages 8-18. QUALIFIERS: unknown. DURATION/DATES: 1 or more weeks (7/17-29). EST. COST: $415/week. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/10 or by special arrangement. CONTACT: Michael Zabinski, Ph.D., Director, National Computer Camps, P.O. Box 585, Orange, CT 06477 (203/795-9667). Programs also offered at Loomis-Chaffee School (Windsor, Connecticut) and Oglethorpe University (Atlanta, Georgia).

RESIDENTIAL

COLLEGE OF MOUNT SAINT JOSEPH. WOMEN IN SCIENCE. RESEARCH/COURSES: biology; chemistry; geology; allied health. ENROLLMENT: 30. GRADE(S): 11/12. QUALIFIERS: GPA and letter of recommendation. DURATION/DATES: 1 week (6/12-16). EST. COST: $65 application fee. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/25. CONTACT: Dr. G. Kritsky, Department of Biology, College of Mount St. Joseph, Mount St. Joseph, OH 45051 (513/244-4411).

MIAMI UNIVERSITY. JUNIOR SCHOLARS PROGRAM. COURSES: precalculus; statistics; discrete mathematics; computer science; physics; botany; zoology; microbiology; geology; geography; sociology; psychology. ENROLLMENT: 120. GRADE(S): 12. QUALIFIERS: H.S. grades; class rank; PSAT scores. DURATION/DATES: 6 weeks (6/26-8/5). EST. COST: $750 (Ohio resident); $1,000 (out-of-state). SCHOLARSHIPS: included in above cost. APPLICATION DEADLINE: 6/1. CONTACT: David E. Kullman, Junior Scholars Program, Miami University, Oxford, OH 45056 (513/529-2926).

OHIO NORTHERN UNIVERSITY. CHEMISTRY SCHOLARS PROGRAM: SUMMER ENRICHMENT PROGRAM FOR WOMEN AND MINORITIES. RESEARCH: physics; chemistry; biology; mathematics. ENROLLMENT: 60. GRADE(S): 11. QUALIFIERS: high achievement in H.S. science courses. DURATION/DATES: 3 weeks (7/11-30). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 3/31. CONTACT: Dr. Carol O'Dell, Ohio Northern University, College of Arts and Sciences, Department of Mathematics and Computer Science, Ada, OH 45810 (419/772-2354).

OHIO STATE UNIVERSITY. SUMMER SCIENCE TRAINING PROGRAM (SSTP). RESEARCH/COURSES: mathematics (number theory, combinatorics, algorithmic questions, algorithmic mathematics and computers). ENROLLMENT: 75. GRADE(S): 9-12. QUALIFIERS: maturity; a searching questionnaire; and some talent search problems. DURATION/DATES: 8 weeks (6/19-8/12). EST. COST: $1,250. SCHOLARSHIPS: yes. APPLICATION DEADLINE: at least one month before start of program. CONTACT: Professor Arnold E. Ross, Department of Mathematics, The Ohio State University, 231 West 18th Avenue, Columbus, OH 43210 (614/292-1569 or 4975).

OHIO UNIVERSITY. SUMMER SCHOLAR PROGRAM. COURSES: students may take any science, math, or engineering course offered for which they have the background. ENROLLMENT: 50. GRADE(S): 12. QUALIFIERS: top 10% of class; approval of parents; recommendation of principal, guidance counselor or national honor society advisor. DURATION/DATES: 5 weeks (6/13-7/16). EST. COST: $375 (for dorm and dining expense) plus text book costs. SCHOLARSHIPS: scholarship covers 7 hours of course work. APPLICATION DEADLINE: 5/15. CONTACT: Dr. David Stewart, Director of Summer Sessions, Ohio University, 310 Cutler Hall, Athens, OH 45701 (614/593-2583).

OKLAHOMA

COMMUTER/RESIDENTIAL

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY. SOUTHWESTERN SUMMER SCIENCE CAMP. COURSES: astronomy; chemistry; computer science; physics. ENROLLMENT: 30. GRADE(S): 12. QUALIFIERS: GPA; science teacher recommendation. DURATION/DATES: 6 weeks (6/6-7/15). EST. COST: $500. SCHOLARSHIPS: limited number of tuition grants. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Harold M. White, Department of Chemistry, Southwestern Oklahoma State University, Weatherford, OK 73096 (405/772-6611, ext. 3115).

UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER. HEADLANDS INDIAN HEALTH CAREERS. COURSES: algebra; trigonometry; calculus; physics; chemistry; biology. ENROLLMENT: 23. GRADE(S): 12. QUALIFIERS: American Indian students; 2.5 GPA; two years of algebra; two years of science. DURATION/DATES: 8 weeks (June-August). EST. COST: none. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 3/15. CONTACT: Tom Hardy, University of Oklahoma Health Sciences Center, Basic Sciences Education Building, Room 200, P.O. Box 26901, Oklahoma City, OK 73190 (405/271-2250).

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RESIDENTIAL

UNIVERSITY OF OKLAHOMA BIOLOGICAL STATION. STUDENT SCIENCE TRAINING PROGRAM FOR PRE-COLLEGE STUDENTS. RESEARCH/COURSES: ecology; natural history; taxonomy; evolution; morphology; physiology of organisms in natural habitats (ornithology; field botany; reservoir ecology; field zoology; fish ecology; field entomology). ENROLLMENT: 15. GRADE(S): 11/12. QUALIFIERS: GPA (B or better); demonstrated interest in research; recommendations. DURATION/DATES: 8 weeks (5/28-7/23). EST. COST: $400. SCHOLARSHIPS: fifteen $400 scholarships available. APPLICATION DEADLINE: 5/1. CONTACT: Loren G. Hill and Scott D. Shalaway, University of Oklahoma Biological Station, 730 Van Vleet Oval, Norman, OK 73019 (405/325-5391).

OREGON

COMMUTER

PORTLAND STATE UNIVERSITY. CHALLENGE PROGRAM. COURSES: calculus; introduction to computer science. ENROLLMENT: 86. GRADE(S): 12. QUALIFIERS: academic achievement; 3.0 GPA; faculty recommendations. DURATION/DATES: academic year. EST. COST: $37/quarter. SCHOLARSHIPS: none. APPLICATION DEADLINE: 9/15 (fall); 1/15 (winter); 4/15 (spring). CONTACT: Karen Tosi, Office of Academic Affairs, Portland State University, P.O. Box 751, Portland, OR 97207 (503/464-3430).

REED COLLEGE. SUMMER WORKSHOP FOR ACADEMICALLY GIFTED HIGH SCHOOL STUDENTS. RESEARCH/COURSES: chemistry; mathematics; physics. ENROLLMENT: 50. GRADE(S): 12. QUALIFIERS: identification as a talented and gifted student at the H.S. level. DURATION/DATES: 2 weeks (8/11-21). EST. COST: $85/course. SCHOLARSHIPS: some. APPLICATION DEADLINE: 6/30. CONTACT: Toinette Menashe, Reed College, Portland, OR 97202 (503/777-7259).

REED COLLEGE. YOUNG SCHOLARS PROGRAM. COURSES: chemistry; mathematics; physics. ENROLLMENT: 30. GRADE(S): 12. QUALIFIERS: identification as a talented and gifted student at the H.S. level. DURATION/DATES: academic year. EST. COST: $85/course plus books and materials. SCHOLARSHIPS: some. APPLICATION DEADLINE: 6/30 (fall); 12/10 (spring). CONTACT: Toinette Menashe, Reed College, Portland, OR 97202 (503/777-7259).

COMMUTER/RESIDENTIAL

UNIVERSITY OF OREGON. OREGON SUMMER SCIENCE EXPERIENCE. COURSES: biology; chemistry; geology; physics. ENROLLMENT: 24/session. GRADE(S): 11/12. QUALIFIERS: academic achievement; faculty recommendations. DURATION/DATES: two 1-week sessions (7/8-15; 7/22-29). EST. COST: $126. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/1. CONTACT: Ralph Barnhard, Department of Chemistry, University of Oregon, Eugene, OR 97403 (503/686-4601).

RESIDENTIAL

LEWIS AND CLARK COLLEGE. SUMMER COLLEGE FOR HIGH SCHOOL JUNIORS. COURSES: mathematics; chemistry; physics. ENROLLMENT: 40-50. GRADE(S): 12. QUALIFIERS: academic achievement and references. DURATION/DATES: 6 weeks (6/18-7/30). EST. COST: $1,400. SCHOLARSHIPS: yes ($300). APPLICATION DEADLINE: 6/3. CONTACT: Professor Curtis Johnson, Summer College for High School Seniors, Campus Box 39, Lewis and Clark College, Portland, OR 97219 (503/293-2759).

OREGON MUSEUM OF SCIENCE AND INDUSTRY. NATURAL SCIENCE FIELD STUDY PROGRAM. RESEARCH AND COURSES: natural science field study; geology; botany; zoology; paleontology; archaeology; astronomy. ENROLLMENT: 50. GRADE(S): 9-12. QUALIFIERS: letter of interest in natural sciences; recommendations. DURATION/DATES: 2 weeks (August). EST. COST: $330. SCHOLARSHIPS: limited, based on need. APPLICATION DEADLINE: 5/20. CONTACT: Joseph Jones, Hancock Field Station, Fossil, OR 97830 (503/763-4691).

OREGON MUSEUM OF SCIENCE AND INDUSTRY. PALEONTOLOGY RESEARCH TEAM. RESEARCH/COURSES: paleontology; paleobotany; vertebrate paleontology; geology; botany; zoology. ENROLLMENT: 10. GRADE(S): 9-12. QUALIFIERS: letter of interest; recommendation. DURATION/DATES: 5 weeks (July/August). EST. COST: $575. SCHOLARSHIPS: limited, based on need. APPLICATION DEADLINE: 5/20. CONTACT: Joseph Jones, Hancock Field Station, Fossil, OR 97830 (503/763-4691).

OREGON MUSEUM OF SCIENCE AND INDUSTRY. RIPARIAN ECOLOGY RESEARCH TEAM. RESEARCH/COURSES: freshwater biology; botany; hydrology; zoology. ENROLLMENT: 10. GRADE(S): 9-12. QUALIFIERS: letter of interest; recommendation. DURATION/DATES: 5 weeks (July/August). EST. COST: $575. SCHOLARSHIPS: limited, based on need. APPLICATION DEADLINE: 5/20. CONTACT: Joseph Jones, Hancock Field Station, Fossil, OR 97830 (503/763-4691).

PENNSYLVANIA

COMMUTER

ALBRIGHT COLLEGE. COLLEGE OPPORTUNITY PROGRAM. COURSES: calculus; chemistry; biology. ENROLLMENT: 40. GRADE(S): 10/11. QUALIFIERS: top 20% of class; recommendation. DURATION/DATES: two 4-week sessions (June/July). EST. COST: $65/credit. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/10. CONTACT: Dr. Paul Sable, Continuing Education, P.O. Box 15234, Albright College, Reading, PA 19612 (215/921-2381).

ALBRIGHT COLLEGE. YOUTH ENRICHMENT PROGRAM. COURSES: introduction to PASCAL; archaeology; painting; tennis; great books. ENROLLMENT: 100. GRADE(S): 2-11. QUALIFIERS: none. DURATION/DATES: 5 weeks (July-August). EST. COST: $75. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/10. CONTACT: Dr. Paul Sable, Continuing Education, P.O. Box 15234, Albright College, Reading, PA 19612 (215/921-2381).

BRYN MAWR COLLEGE. SUMMER SESSIONS. COURSES: general biology; general chemistry; physics; calculus. ENROLLMENT: 245. GRADE(S): 10/11/12. QUALIFIERS: successful completion of science courses noted on H.S. transcript; and awareness of program's intensity. DURATION/DATES: two 5-week sessions (June/July). EST. COST: $850/course. SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/15. CONTACT: Joseph Varimbi, Acting Director, Division of Special Studies, Bryn Mawr College, Bryn Mawr, PA 19010 (215/645-6197).

FRANKLIN AND MARSHALL COLLEGE. GIFTED STUDENTS PROGRAM: RESEARCH INTERNS. RESEARCH: depends upon individual student's interest. ENROLLMENT: 3. GRADE(S): 11/12. QUALIFIERS: transcript; teacher recommendation; interview. DURATION/DATES: 10 weeks during summer. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: unknown. CONTACT: Page W. Steele, Director, Gifted Students Program, Franklin and Marshall College, P.O. Box 3003, Lancaster, PA 17604 (717/291-4166).

FRANKLIN AND MARSHALL COLLEGE. GIFTED STUDENTS PROGRAM: SEMINARS. COURSES: mathematics; science. ENROLLMENT: 60. GRADE(S): 7-10. QUALIFIERS: SAT or DAT (Differential Aptitude Test). DURATION/DATES: academic year. EST. COST: $100. SCHOLARSHIPS: some. APPLICATION DEADLINE: unknown. CONTACT: Page W. Steele, Director, Gifted Students Program, Franklin and

Marshall College, P.O. Box 3003, Lancaster, PA 17604 (717/291-4166).

FRANKLIN AND MARSHALL COLLEGE. GIFTED STUDENTS PROGRAM: SUMMER SCIENCE CAMP. COURSES: interdisciplinary. ENROLLMENT: 20. GRADE(S): 5/6. QUALIFIERS: teacher recommendation. DURATION/DATES: 1 week during August. EST. COST: $200. SCHOLARSHIPS: some. APPLICATION DEADLINE: unknown. CONTACT: Page W. Steele, Director, Gifted Students Program, Franklin and Marshall College, P.O. Box 3003, Lancaster, PA 17604 (717/291-4166).

GEORGE WASHINGTON UNIVERSITY. SCIENCE AND ENGINEERING APPRENTICE PROGRAM (SEAP). See complete listing in District of Columbia section.

LA ROCHE COLLEGE. SCIENCE EXPLORATION '87. RESEARCH/COURSES: biological sciences; chemistry; computers; genetics; physics. ENROLLMENT: 30 maximum. GRADE(S): 7-9. QUALIFIERS: based on science teacher referral and written essay. DURATION/DATES: two 2-week sessions (6/13-24; 7/5-15). EST. COST: $150. SCHOLARSHIPS: 30 available. APPLICATION DEADLINE: 6/1. CONTACT: Deborah L. Devine-Ference, La Roche College, 9000 Babcock Boulevard, Pittsburgh, PA 15237 (412/367-9255).

LA ROCHE COLLEGE. SCIENCE SYMPOSIUM. COURSES: current issues and topics in sciences. ENROLLMENT: 175-200. GRADE(S): 10/11/12. QUALIFIERS: students must be enrolled in high school level science course. DURATION/DATES: 1 day (October 7). EST. COST: none. SCHOLARSHIPS: none. APPLICATION DEADLINE: none. CONTACT: Marianne Shertzer, La Roche College, 9000 Babcock Boulevard, Pittsburgh, PA 15237 (412/367-9300, ext. 108).

MILLERSVILLE UNIVERSITY. SSTP PROGRAM FOR HIGH ABILITY STUDENTS. RESEARCH/COURSES: biology; chemistry; computer science; earth science; geology; mathematics; meteorology; physics; nursing. ENROLLMENT: 45 (3 groups of 15). GRADE(S): 8-11. QUALIFIERS: letter of recommendation from science and/or mathematics teacher; high GPA in science and mathematics courses; essay submitted by student. DURATION/DATES: 3 weeks (July-August depending on group). EST. COST: $100 (8/9 grades); $150 (10/11 grade research component). SCHOLARSHIPS: no. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Albert C. Hoffman, Dean, School of Science and Mathematics, Roddy Science Center, Millersville University, Millersville, PA 17551 (717/872-3407).

PENNSYLVANIA JUNIOR ACADEMY OF SCIENCE REGION VII IN COOPERATION WITH CARNEGIE MELLON UNIVERSITY, DUQUESNE UNIVERSITY, AND THE UNIVERSITY OF PITTSBURGH. SCIENCE WORKSHOPS. COURSES: chemistry; physics; biology; computer science. ENROLLMENT: 95. GRADE(S): 10/11/12. QUALIFIERS: Each participating H.S. may nominate up to four students. The students are then invited to participate in the program. DURATION/DATES: 6 Saturdays, October/November. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 6/1. CONTACT: Dr. Kurt C. Schreiber, Department of Chemistry, Duquesne University, Pittsburgh, PA 15282 (412/434-6341; 412/521-1647).

PENNSYLVANIA STATE UNIVERSITY, THE BEHREND COLLEGE. EXCEL (EXTRAORDINARY COLLEGIATE EXPERIENCE IN LEARNING). COURSES: biological science; geological science; chemistry; physics; mathematics; computer science. ENROLLMENT: space available basis. GRADE(S): 11/12. QUALIFIERS: must be enrolled in a college preparatory curriculum; should have minimum SAT/PSAT scores of 1000; high school GPA of 3.0+. DURATION/DATES: 8 weeks (6/7-7/28). EST. COST: $137/credit for Pennsylvania residents. SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/16. CONTACT: Patricia Bailey, Director of Admissions, Penn State at Erie, The Behrend College, Station Road, Erie, PA 16563 (814/898-6100).

WESTINGHOUSE RESEARCH AND DEVELOPMENT CENTER. WESTINGHOUSE SCIENCE HONORS INSTITUTE. COURSES: physics; chemistry; biology; metallurgy; computer applications. ENROLLMENT: 250-280. GRADE(S): 12. QUALIFIERS: PSAT/SAT scores; teacher recommendation; grades; screening. DURATION/DATES: academic year (October-March). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 9/15. CONTACT: Dr. Norman Goldstein, Westinghouse Research and Development Center, 1310 Beulah Road, Pittsburgh, PA 15235 (412/256-1062).

WIDENER UNIVERSITY. HIGH SCHOOL HONORS PROGRAM. COURSES: biology; chemistry; computer science; environmental science; mathematics; physics. ENROLLMENT: unknown. GRADE(S): 12. QUALIFIERS: recommendations of guidance counselor and subject area H.S. teacher. DURATION/DATES: academic year and summer (3 summer sessions). EST. COST: $30/course plus fees. SCHOLARSHIPS: none. APPLICATION DEADLINE: unknown. CONTACT: Mr. Steven Adams, Assistant Provost, Widener University, Chester, PA 19013 (215/499-4107).

WIDENER UNIVERSITY. WIDENER UNIVERSITY SCIENCE EXPERIENCE FOR SELECTED HIGH SCHOOL STUDENTS. RESEARCH/COURSES: biology; chemistry; computer science; physics. ENROLLMENT: 60. GRADE(S): 10/11/12. QUALIFIERS: recommendation of school district science advisor. DURATION/DATES: academic year. EST. COST: $100. SCHOLARSHIPS: some. APPLICATION DEADLINE: 10/6. CONTACT: T. J. O'Tanyi, Associate Professor, Widener University, Chester, PA 19013 (215/499-4004).

ELECTRIFYING COURSES

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COMMUTER/RESIDENTIAL

CARNEGIE MELLON UNIVERSITY. ADVANCED PLACEMENT EARLY ADMISSION PROGRAM. COURSES: calculus; discrete mathematics or computer science; physics (mechanics); chemistry (dynamics and equilibria); biology; physics laboratory; computing (PASCAL); English; history. ENROLLMENT: 200. GRADE(S): age 16+ or completed grade 11. QUALIFIERS: transcript; PSAT or SAT; recommendations; essay. DURATION/DATES: 6 weeks (6/26-8/4). EST. COST: $2,400. SCHOLARSHIPS: limited, based on merit. APPLICATION DEADLINE: 5/18. CONTACT: Jonathan Marom, Director of Pre-College Programs, Summer Studies Office, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213 (412/268-6620).

DREXEL UNIVERSITY, PHILADELPHIA COLLEGE OF PHARMACY AND SCIENCE, TEMPLE UNIVERSITY, UNIVERSITY OF PENNSYLVANIA, AND VILLANOVA UNIVERSITY. PRIME UNIVERSITIES PROGRAM (PUP). COURSES: biology; chemistry; communications; mathematics; pharmacy; health sciences; physics; computer science; engineering; actuarial science; statistics; probability. ENROLLMENT: 550. GRADE(S): 9-12. QUALIFIERS: Philadelphia, PA/Camden, NJ students only; interest and high aptitude in math and science; 80th percentile or above on CAT; A and B grades in math and science; teacher and/or counselor recommendation; highly motivated. DURATION/DATES: 4 weeks (7/5-29). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: open. CONTACT: Dr. Alexander Tobin, Executive Director, PRIME, Inc., Suite 1201, 1700 Walnut Street, Philadelphia, PA 19103 (215/893-8500).

GANNON UNIVERSITY. ENGINEERING SUMMER GUIDANCE PROGRAM. RESEARCH/COURSES: engineering. ENROLLMENT: 30. GRADE(S): 11. QUALIFIERS: based on recommendation from H.S. counselor. DURATION/DATES: 1 week (7/24-30). EST. COST: $175 (residential); $85 (commuter). SCHOLARSHIPS: one from Pennsylvania Junior Academy of Science. APPLICATION DEADLINE: 7/1. CONTACT: Roberta Huefner or Darcy Young, Summer Office, University College, Gannon University, Erie, PA 16541 (814/871-7460 or 7458).

SAINT VINCENT COLLEGE. CHALLENGE PROGRAM. COURSES: robotics; mathematics; statistics. ENROLLMENT: 20/class (60/week). GRADE(S): 7-12. QUALIFIERS: open enrollment for talented students. DURATION/DATES: two 1-week sessions; 7/10-15 (ages 12-14) and 7/24-29 (ages 15-18). EST. COST: $375 (residential); $245 (commuter). SCHOLARSHIPS: partial. APPLICATION DEADLINE: 6/10. CONTACT: Mr. Paul J. Prokop, St. Vincent College, Latrobe, PA 15650-2690 (412/537-4569).

SETON HILL COLLEGE. SUMMER RESEARCH PROGRAM FOR HIGH ABILITY HIGH SCHOOL GIRLS. RESEARCH: biology; chemistry. ENROLLMENT: 12. GRADE(S): 11/12. QUALIFIERS: H.S. biology or chemistry; algebra II; high science motivation and ability; letter of interest; teacher recommendation; interview. DURATION/DATES: 5 weeks (6/20-7/22). EST. COST: $50 + housing fee (residents). SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/30. CONTACT: Sr. Bernadette Fondy, Ph.D., Department of Biology, Seton Hill College, Greensburg, PA 15601 (412/834-2200, ext. 376).

SLIPPERY ROCK UNIVERSITY. SUMMER ACADEMY. COURSES: physics; chemistry; computer science; biology; anatomy; physiology. ENROLLMENT: 200. GRADE(S): 10/11/12. QUALIFIERS: top 25% of class. DURATION/DATES: 3 weeks (6/27-7/15). EST. COST: $435 (includes tuition, room, fees and meals). SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1. CONTACT: Mr. Louis Rassano, Associate Vice President for Academic Affairs, Slippery Rock University, Slippery Rock, PA 16057 (412/794-7229).

UNIVERSITY OF PENNSYLVANIA. DISCOVERY PROGRAM: ENRICHMENT FOR ACADEMICALLY ABLE YOUTH. COURSES: science enrichment; cell biology; astronomy; physics; chemistry; genetic engineering; fossil collecting; math; archaeology. ENROLLMENT: 425. GRADE(S): 5-10. QUALIFIERS: grades and teacher recommendation; top 20% of class; and intensive format appropriate. DURATION/DATES: 1-, 2-, and 3-week courses (academic year and summer). EST. COST: $135-300. SCHOLARSHIPS: yes. APPLICATION DEADLINE: unknown. CONTACT: Ms. Susan Duggan, Discovery Program, College of General Studies, 3808 Walnut Street, University of Pennsylvania, Philadelphia, PA 19104 (215/898-6763).

UNIVERSITY OF PENNSYLVANIA. INTENSIVE JULY SCIENCE ENRICHMENT FOR RISING 10TH & 11TH GRADE STUDENTS. COURSES: general science; critical thinking; writing (space or ecology). ENROLLMENT: 25. GRADE(S): 10/11. QUALIFIERS: high ability determined by grades and teacher recommendation. DURATION/DATES: 4 weeks (7/5-29). EST. COST: $850 (room, board, and books extra). SCHOLARSHIPS: one minority scholarship available for Philadelphia city resident. APPLICATION DEADLINE: unknown. CONTACT: Director of Service Programs/CGS, University of Pennsylvania, 3808 Walnut Street, Philadelphia, PA 19104 (215/898-5407 or 6763).

URSINUS COLLEGE. MATHEMATICALLY GIFTED PROGRAM. COURSES: mathematics: precalculus, calculus, statistics. ENROLLMENT: 10. GRADE(S): 11/12. QUALIFIERS: PSAT/SAT scores of 650+; recommendation of H.S.. DURATION/DATES: two 3-week sessions (6/6-24; 6/27-7/18). EST. COST: $115/week (room and board). SCHOLARSHIPS: all accepted students receive free tuition. APPLICATION DEADLINE: open. CONTACT: Dr. Peter F. Small, Summer School Director, Ursinus College, Collegeville, PA 19426 (215/489-4111).

RESIDENTIAL

ALLEGHENY COLLEGE. ENRICHMENT SCHOLARSHIPS PROGRAM. COURSES: biology; computer science; mathematics (calculus); psychology; astronomy. ENROLLMENT: 10-12. GRADE(S): 11. QUALIFIERS: GPA; recommendations from teacher and counselor; class rank. DURATION/DATES: 5 weeks (June-July). EST. COST: $500. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 6/1. CONTACT: Ms. Linda A. Palmiero, Box 18, Allegheny College, Meadville, PA 16335 (814/724-3393).

CARNEGIE MELLON UNIVERSITY. CORPORATE SCHOLARS PROGRAM. RESEARCH: materials science. ENROLLMENT: 15-20. GRADE(S): pre-freshman. QUALIFIERS: graduates accepted by Carnegie Institute of Technology; >1250 SAT; top 5% of class. DURATION/DATES: 8 to 10 weeks (tentatively 6/15-8/20). EST. COST: none (includes salary of $550/month and room and board). SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/15. CONTACT: Herman Greenberg, Carnegie-Mellon University, 3317 Wean Hall, Schenley Park, Pittsburgh, PA 15213 (412/268-2705).

CARNEGIE MELLON UNIVERSITY. PENNSYLVANIA GOVERNOR'S SCHOOL FOR THE SCIENCES. RESEARCH AND COURSES: biology; chemistry; physics; mathematics; and computer science. ENROLLMENT: 90. GRADE(S): 12. QUALIFIERS: grades; class rank; SAT scores; letters of recommendation from science teacher, math teacher, and guidance counselor; student essays; must be PA resident. DURATION/DATES: 5 weeks (7/3-8/6). EST. COST: none, must be PA resident. SCHOLARSHIPS: all students supported by Pennsylvania Department of Education. APPLICATION DEADLINE: 2/8. CONTACT: Professor Albert A. Caretto, Carnegie Mellon University, Doherty Hall 2201, Schenley Park, Pittsburgh, PA 15213 (412/268-6669).

COLLEGE GIFTED PROGRAMS AT GEORGE SCHOOL, NEWTOWN. THE SUMMER INSTITUTE FOR THE GIFTED AT GEORGE SCHOOL (IN COOPERATION WITH THOMAS A. EDISON STATE COLLEGE). COURSES: BASIC; PASCAL; biology; chemistry; physics; linear algebra; astronomy; logic; algebra; geometry; calculus; PSAT/SAT mathematics; precalculus; veterinary medicine; humanities; simulations; art; music; sports (college credit given for some courses). ENROLLMENT: 250. GRADE(S): 4-11. QUALIFIERS: 95th percentile on standardized tests; SAT/PSAT scores; IQ; identification by school district as gifted; strong teacher recommendation. DURATION/DATES: 3 weeks (7/3-24). EST. COST: $1,350. SCHOLARSHIPS: extremely limited. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Carl Gottschall or Dr. Philip W. Zipse, College Gifted Programs, 544 Bloomfield Avenue, Verona, NJ 07044 (201/857-2521). See also College Gifted Programs at Blair School, Blairstown, New Jersey.

EDINBORO UNIVERSITY OF PENNSYLVANIA. SUMMER ACADEMY. COURSES: robotics; physics; ecology and environmental science; astronomy; computer science; biology. ENROLLMENT: 520. GRADE(S): 4-10 (ages 9-16). QUALIFIERS: gifted, talented, or creative youth. DURATION/DATES: two 1-week sessions (7/10-16; 7/17-23). EST. COST: $260. SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/15. CONTACT: Ted Atkinson, Edinboro University of Pennsylvania, Doucette Hall 102, Edinboro, PA 16444 (814/732-2884 or 2885).

LEBANON VALLEY COLLEGE. YOUTH SCHOLARS INSTITUTE. RESEARCH/COURSES: anatomy; botany; chemistry; computer science; embryology; genetics; mathematics; microbiology; physiology (animal); physics; psychology (experimental, clinical); psychobiology; recording technology. ENROLLMENT: 10-30. GRADE(S): 11/12. QUALIFIERS: highly selective; participants must be nominated by teachers and guidance counselors; motivation; career goals; academic record; background. DURATION/DATES: three 1-week sessions (6/19-24; 7/10-15; 7/24-29). EST. COST: $195 (room, board, recreation). SCHOLARSHIPS: yes, all participants have tuition and fee waiver. APPLICATION DEADLINE: varies by program, approximately 4/15. CONTACT: Dr. Dale Erskine, Biology Department, Lebanon Valley College, Annville, PA 17003 (717/867-6176, Dr. Erskine). Please direct all inquiries to Tammy L. Steele (717/867-6204).

LINCOLN UNIVERSITY. LASER (LINCOLN ADVANCED SCIENCE AND ENGINEERING REINFORCEMENT) PROGRAM. COURSES: all areas (academic year); physics and calculus (summer). ENROLLMENT: 20. GRADE(S): 12. QUALIFIERS: B average in science and math; 950 combined SAT score; references; placement test; interview. DURATION/DATES: 10-week summer program (5/26-8/5) plus 2 year follow on academic year. EST. COST: none (summer); 70-100% of expenses paid (academic year). SCHOLARSHIPS: merit based program. APPLICATION DEADLINE: 3/1. CONTACT: Dr. Willie Williams, c/o Physics Department, Lincoln University, Lincoln University, PA 19352 (215/932-8300, ext. 470 or 215/932-8107).

WEST CHESTER UNIVERSITY. COMPUTER EDUCATION FOR THE GIFTED. COURSES: mathematics. ENROLLMENT: 25. GRADE(S): 9-12. QUALIFIERS: must be gifted. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: unknown. CONTACT: J. Weaver, West Chester University, Anderson Hall, West Chester, PA 19383 (215/436-2632).

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RHODE ISLAND

COMMUTER

PROVIDENCE COLLEGE. ENVIRONMENTAL BIOLOGY AND BIOLOGICAL COMPUTER SIMULATION. COURSES: biology; computer science. ENROLLMENT: 32. GRADE(S): 10/11/12. QUALIFIERS: grades; recommendations; essay. DURATION/DATES: 6 weeks (6/20-7/28). EST. COST: $190. SCHOLARSHIPS: available. APPLICATION DEADLINE: 4/1. CONTACT: Dr. Robert I. Krasner, Biology Department, Providence College, Providence, RI 02918 (401/865-2239).

PROVIDENCE COLLEGE. GOVERNOR'S SUMMER PROGRAM IN SCIENCE AND MATHEMATICS. COURSES: chemistry; biology; physics; earth science; computer science; mathematics. ENROLLMENT: 65. GRADE(S): 11/12. QUALIFIERS: grades; recommendations; class standing; SAT scores. DURATION/DATES: 4 weeks (6/20-7/14). EST. COST: none. SCHOLARSHIPS: small travel stipends based on need. APPLICATION DEADLINE: 4/1. CONTACT: Dr. Robert I. Krasner, Biology Department, Providence College, Providence, RI 02918 (401/865-2239).

RHODE ISLAND COLLEGE. GOVERNOR'S SUMMER PROGRAM IN SCIENCE AND MATHEMATICS. COURSES: physics; chemistry; biology; mathematics. ENROLLMENT: 35. GRADE(S): 11/12. QUALIFIERS: SAT; class standing; grades; recommendations. DURATION/DATES: 4 weeks (6/27-7/22). EST. COST: none. SCHOLARSHIPS: small travel stipends based on need. APPLICATION DEADLINE: 4/8. CONTACT: Robert E. Viens, Physics Department, Rhode Island College, Providence, RI 02908 (401/456-9659).

SOUTH CAROLINA

COMMUTER

LANDER COLLEGE. CONCURRENT LANDER HIGH SCHOOL ENROLLMENT. COURSES: all disciplines. ENROLLMENT: no limit. GRADE(S): 11/12. QUALIFIERS: PSAT/SAT/ACT scores; transcript; recommendation. DURATION/DATES: academic year and summer. EST. COST: $80/semester hour. SCHOLARSHIPS: none. APPLICATION DEADLINE: varies. CONTACT: Jacquelyn Roark, Director of Admissions, Lander College, Greenwood, SC 29646 (803/229-8307).

UNIVERSITY OF SOUTH CAROLINA AT AIKEN. YOUNG SCHOLARS. COURSES: biology (zoology and botany); physical science (chemistry and physics). ENROLLMENT: 40. GRADE(S): 6-9. QUALIFIERS: strong letters of recommendation; excellent academic record. DURATION/DATES: 2 weeks (7/11-22). EST. COST: $175. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 6/1. CONTACT: Dr. Mary Leslie Hudson, University of South Carolina at Aiken, 171 University Parkway, Aiken, SC 29801 (803/648-6851).

UNIVERSITY OF SOUTH CAROLINA, COASTAL CAROLINA COLLEGE. YOUNG PEOPLE'S COLLEGE. COURSES: marine science; chemistry; computer science. ENROLLMENT: 100. GRADE(S): 8/9. QUALIFIERS: average to above average in school performance; high interest in summer study. DURATION/DATES: 4 weeks (7/13-8/6). EST. COST: $50/course. SCHOLARSHIPS: limited number. APPLICATION DEADLINE: 6/16. CONTACT: Audrey A. Garland, University of South Carolina, Coastal Carolina College, P.O. Box 1954, Conway, SC 29526 (803/347-3161).

UNIVERSITY OF SOUTH CAROLINA, COLUMBIA. CONCURRENT UNIVERSITY ENROLLMENT. COURSES: all disciplines. ENROLLMENT: no limit. GRADE(S): 10/11/12. QUALIFIERS: test scores; transcript; recommendation. DURATION/DATES: academic year. EST. COST: varies according to credit hours. SCHOLARSHIPS: none. APPLICATION DEADLINE: variable. CONTACT: Mr. Jay Smith, Admissions Office, University of South Carolina, Columbia, SC 29208 (803/777-7700).

RESIDENTIAL

CLEMSON UNIVERSITY. SUMMER SCIENCE AND ENGINEERING HONORS PROGRAM. RESEARCH/COURSES: basic electronics; biology; chemistry; creativity and engineering design; computer science; physics and astronomy/earth science; psychology/physiology; entomology; meteorology; archeology. ENROLLMENT: 250. GRADE(S): 7-12. QUALIFIERS: one of the following: (1) IQ of 120+ on standardized IQ test; (2) class rank in top 10%; or (3) strong recommendation from a teacher, counselor, or school principal. DURATION/DATES: 1-, 2-, and 3-week sessions (6/19-26; 7/10-17; 6/19-7/2; 7/17-30; 7/10-30). EST. COST: $295/one week; $495/two weeks; $745/three weeks. SCHOLARSHIPS: limited number of partial scholarships based on need. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Spurgeon Cole, Summer Science and Engineering Honors Program, Suite 532 Clemson House, Clemson University, Clemson, SC 29634-5105 (803/656-5849).

COLLEGE OF CHARLESTON. GOVERNOR'S SCHOOL OF SOUTH CAROLINA. COURSES: computer science; marine biology; geology; chemistry; mathematics; behavioral science; the brain. ENROLLMENT: 250. GRADE(S): 12. QUALIFIERS: gifted and talented rising H.S. seniors nominated by their H.S.. DURATION/DATES: 5 weeks (6/19-7/23). EST. COST: $300. SCHOLARSHIPS: full and partial are available. APPLICATION DEADLINE: 3/15. CONTACT: Dr. Rose C. Hamm, Director, Governor's School, College of Charleston, Charleston, SC 29424 (803/792-7154).

ERSKINE COLLEGE. RISE (RESEARCH IN SCIENCE AT ERSKINE). RESEARCH/COURSES: physics (holography); computer interfacing. ENROLLMENT: 25. GRADE(S): 10/11/12. QUALIFIERS: GPA; standardized test scores; teacher recommendation. DURATION/DATES: 3 weeks (6/13-7/1). EST. COST: $850. SCHOLARSHIPS: none. APPLICATION DEADLINE: unknown. CONTACT: Dr. William F. Junkin, III, RISE Director, Erskine College, Due West, SC 29639 (803/379-8822).

SOUTH DAKOTA

COMMUTER/RESIDENTIAL

SOUTH DAKOTA STATE UNIVERSITY. SUMMER SCIENCE CAMP. COURSES: animal science; biology; chemistry; computer science; physics; physiology; engineering (electrical, mechanical, agricultural); wildlife biology. ENROLLMENT: 20. GRADE(S): 8-12. QUALIFIERS: interested students; school recommendation. DURATION/DATES: 1 week (6/6-10). EST. COST: $150. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/1. CONTACT: Gary Peterson, Biology Department, Box 2207B, South Dakota State University, Brookings, SD 57007 (605/688-6141).

TENNESSEE

COMMUTER

EAST TENNESSEE STATE UNIVERSITY. ETSU-MENSA ENRICHMENT SEMINARS. SEMINARS: environmental science; health sciences; aerospace; technology (robotics); forensic criminology; practical law; astronomy. ENROLLMENT: 112. GRADE(S): 7-12. QUALIFIERS: students select seminars of interest to them; instruction is at the college level. DURATION/DATES: 5 weeks during fall semester of academic year and 7/11-29 during summer. EST. COST: $5/seminar. SCHOLARSHIPS: no. APPLICATION DEADLINE: open. CONTACT: Dr. Hester Clark, Department of Human Development and Learning, P.O. Box 18, 940A, East Tennessee State University, Johnson City, TN 37614 (615/929-4478).

MEHARRY MEDICAL COLLEGE. APPRENTICE IN SCIENCE PROGRAM. RESEARCH: biological sciences. ENROLLMENT: 6. GRADE(S): 10/11/12. QUALIFIERS: must live in Nashville area; B average; strong interest in science; inquisitiveness. DURATION/DATES: 8 weeks (6/6-7/29). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/30. CONTACT: Dr. Joseph Whittaker, Department of Microbiology, Meharry Medical College, Nashville, TN 37211 (615/327-6281).

COMMUTER/RESIDENTIAL

LINCOLN MEMORIAL UNIVERSITY. SUMMER SCIENCE SCHOLARS. COURSES: computer science; biology; chemistry; environmental science. ENROLLMENT: 25. GRADE(S): 12. QUALIFIERS: GPA of 3.0 or more. DURATION/DATES: 5 weeks (June/July). EST. COST: $375 (residential); $200 (commuting). SCHOLARSHIPS: yes. APPLICATION DEADLINE: 6/1. CONTACT: Dr. John E. Copeland, Chairperson, Natural Science Division, Lincoln Memorial University, Harrogate, TN 37752-0901 (615/869-3611).

TENNESSEE STATE UNIVERSITY, MAIN CAMPUS. MINORITY HIGH SCHOOL RESEARCH APPRENTICESHIP PROGRAM. RESEARCH/COURSES: biology; psychology; chemistry. ENROLLMENT: 15. GRADE(S): 10/11/12. QUALIFIERS: GPA of 3.0 or above on 4.0 maximum scale; two letters of recommendation; transcript; possible interview. DURATION/DATES: 8 to 10 weeks (6/6-8/12). EST. COST: none. SCHOLARSHIPS: room and board plus $1,100 stipend. APPLICATION DEADLINE: 5/5. CONTACT: Dr. James A. Adams, 3500 John Merritt Boulevard, Tennessee State University, Nashville, TN 37203 (615/320-3462).

UNIVERSITY OF TENNESSEE AT MARTIN. PACESETTER SUMMER HONORS PROGRAM. COURSES: mathematics; basic engineering; chemistry; physics; biology; geology. ENROLLMENT: 30. GRADE(S): 12. QUALIFIERS: H.S. GPA; recommendation of counselor and principal. DURATION/DATES: 4 weeks (6/12-7/12). EST. COST: $355 (residential); $167 (commuting); $793 (out-of-state residential). SCHOLARSHIPS: awarded to all selected to participate. APPLICATION DEADLINE: 5/3. CONTACT: Dr. Ernest W. Blythe, Jr., Honors Programs, The University of Tennessee at Martin, Martin, TN 38238 (901/587-7436).

RESIDENTIAL

TENNESSEE STATE DEPARTMENT OF EDUCATION. GOVERNOR'S SCHOOL FOR THE SCIENCES. COURSES: chemistry; biology; physics; advanced math; computer science; astronomy; geology. ENROLLMENT: 150. GRADE(S): 11/12. QUALIFIERS: achievement; motivation; maturity. DURATION/DATES: 4 weeks (6/20-7/15). EST. COST: transportation to site. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: early Spring. CONTACT: Dr. Emily Stewart, Director, Programs for Gifted/Talented, Special Education, 132 Cordell Hull Building, Nashville, TN 37219 (615/741-0662).

TENNESSEE TECHNOLOGICAL UNIVERSITY. SUMMER SCIENCE PROGRAM FOR GIFTED AND TALENTED JUNIOR HIGH AND SECONDARY STUDENTS. COURSES: biology; computer science; physical science. ENROLLMENT: 65. GRADE(S): 7-10. QUALIFIERS: test scores; counselor recommendations; QPA. DURATION/DATES: 1- and 2-week sessions (June and July). EST. COST: $525/two weeks. SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Harvey G. Neufeldt, Box 5042, Tennessee Technological University, Cookeville, TN 38505 (615/372-3458).

UNIVERSITY OF TENNESSEE AT KNOXVILLE. THE STOKELY SCHOLARS PROGRAM. RESEARCH/COURSES: interdisciplinary liberal arts including both arts and sciences. ENROLLMENT: 32. GRADE(S): 11. QUALIFIERS: application essay; interview; references; GPA; test scores; leadership potential as evidenced by participation in school and community activities. DURATION/DATES: 5 weeks (6/26-7/29). EST. COST: travel expenses to and from Knoxville and pocket money. SCHOLARSHIPS: all receive full scholarship. APPLICATION DEADLINE: 1/31. CONTACT: Dr. Lynn J. Champion, University of Tennessee, 231 Ayres Hall, Knoxville, TN 37996 (615/974-2365).

TEXAS

COMMUTER

HOWARD PAYNE UNIVERSITY. EARLY ADMISSION FOR HIGH SCHOOL JUNIORS AND SENIORS IN SCIENCE AND MATH. COURSES: chemistry; physics; biology; computer science; mathematics; geology. ENROLLMENT: 7. GRADE(S): 11/12. QUALIFIERS: recommendation by H.S. principal. DURATION/DATES: academic year and summer (6/6-7/13; 7/14-8/19). EST. COST: $103/semester hour. SCHOLARSHIPS: yes. APPLICATION DEADLINE: rolling admission. CONTACT: Ruth Ann Murphy, Department of Chemistry, Howard Payne University, Brownwood, TX 76801 (915/646-2502).

LAREDO STATE UNIVERSITY. TEXAS PRE-FRESHMAN ENGINEERING PROGRAM (TEXPREP). COURSES: logic; algebra; trigonometry; introduction to computer science; introduction to engineering. ENROLLMENT: 60. GRADE(S): 8-11. QUALIFIERS: overall B average or better; various pre-requisites required for different courses at different grade levels. DURATION/DATES: 8 weeks (6/1-7/31). EST. COST: none. SCHOLARSHIPS: 50 limited to area schools. APPLICATION DEADLINE: 2/25. CONTACT: Dr. Ramon Alaniz, Laredo State University, West End Washington Street, Laredo, TX 78040 (512/722-8001).

TEXAS A&I UNIVERSITY. CONCURRENT HIGH SCHOOL ENROLLMENT. COURSES: all basic courses. ENROLLMENT: 10/semester. GRADE(S): 12. QUALIFIERS: counselor recommendation; overall B GPA; meets eligibility for freshman admission (ACT/SAT scores). DURATION/DATES: academic year and summer. EST. COST: Texas tuition & fees. SCHOLARSHIPS: none. APPLICATION DEADLINE: rolling. CONTACT: Ray Broglie, Director of Admissions, Admission Campus Box 116, Texas A&I University, Kingsville, TX 78363 (512/595-3907).

TEXAS A&I UNIVERSITY. SOUTH TEXAS ENGINEERING, MATHEMATICS, AND SCIENCE (STEMS). RESEARCH AND COURSES: mathematics; chemistry; physics; general introduction to engineering. ENROLLMENT: 250. GRADE(S): 7-12. QUALIFIERS: enrollment in pre-selected school districts in South Texas; above average mathematics and science achievement grades and/or achievement tests; teacher/counselor recommendation. DURATION/DATES: academic year and 5-week summer session. EST. COST: none (some cost sharing for overnight field trips). SCHOLARSHIPS: n/a. APPLICATION DEADLINE: unknown. CONTACT: Alfonso Lopez-V., Assistant to Dean of Engineering, Minority Engineering Student Affairs, Campus Box 121, Texas A&I University, Kingsville, TX 78363 (512/595-2778).

TEXAS A&M UNIVERSITY AT GALVESTON. CONCURRENT ENROLLMENT. COURSES: marine engineering; marine biology; oceanography; computer science. ENROLLMENT: varies. GRADE(S): 11/12. QUALIFIERS: grades; administrative recommendations; personal interview with instructor. DURATION/DATES: academic year and summer. EST. COST: $20-200/semester. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 9/1 (fall); 1/15 (spring). CONTACT: Dr. William J. Wardle, Vice President for Academic Affairs, Texas A&M University at Galveston, P.O. Box 1675, Galveston, TX 77553 (409/740-4408).

TEXAS CHRISTIAN UNIVERSITY. HIGH SCHOOL CONCURRENT ENROLLMENT PROGRAM. COURSES: multidisciplinary. ENROLLMENT: unlimited. GRADE(S): 9-12. QUALIFIERS: admission application; PSAT/SAT/ACT scores; transcript; recommendations; interviews. DURATION/DATES: academic year and summer. EST. COST: tuition and fees. SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/1 (summer); 8/1 (fall); 12/1 (spring). CONTACT: Charleen Hayes McGilvray, Texas Christian University, 2800 University Drive, Box 32905, Fort Worth, TX 76109 (817/921-7490).

TEXAS TECH UNIVERSITY. PREFRESHMAN ENGINEERING PROGRAM (TTU-PREP). RESEARCH/COURSES: physics; chemistry; biological sciences; geological sciences; logic; engineering; computer science. ENROLLMENT: 150+. GRADE(S): 9-12. QUALIFIERS: grade average 85+; recommendations; interest. DURATION/DATES: 8 weeks (6/6-7/29). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 3/25. CONTACT: Dr. Derald D. Walling, Department of Mathematics, Texas Tech University, Lubbock, TX 79409-4319 (806/742-2585).

UNIVERSITY OF TEXAS AT AUSTIN. HIGH SCHOOL-PARALLEL ENROLLMENT PROGRAM (HS-PEP). COURSES: mathematics; computer sciences. ENROLLMENT: 5. GRADE(S): 12. QUALIFIERS: GPA; completion of required mathematics courses. DURATION/DATES: academic year. EST. COST: $220/semester. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1. CONTACT: Stirling S. Miller, Freshman Admissions Center, John W. Hargis Hall, University of Texas at Austin, Austin, TX 78712 (512/471-3892).

UNIVERSITY OF TEXAS AT DALLAS. THE CLARK FOUNDATION SUMMER RESEARCH PARTICIPATION PROGRAM. RESEARCH: chemistry; computer science; environmental science; geoscience; mathematical science; molecular biology; physics; space sciences; neuroscience; engineering; cellular biology. ENROLLMENT: 18. GRADE(S): 12+. QUALIFIERS: class standing; SAT scores; statement of interests. DURATION/DATES: 10 weeks (6/1-8/31). EST. COST: none. SCHOLARSHIPS: students are paid a stipend of $130/week. APPLICATION DEADLINE: 2/15. CONTACT: Dr. David E. Dunn, Dean of Natural Sciences and Math, The University of Texas at Dallas, P.O. Box 830688, Mail Station FN32, Richardson, TX 75083 (214/690-2187).

UNIVERSITY OF TEXAS MEDICAL BRANCH AT GALVESTON. SUMMER RESEARCH PROGRAM FOR HIGH SCHOOL STUDENTS. RESEARCH: microbiology; cell biology; biochemistry; marine biology; physiology; immunology. ENROLLMENT: 16. GRADE(S): 11/12. QUALIFIERS: grades; ACT/SAT scores; demonstrated motivation in science; recommendations from science teacher and counselor; student essay. DURATION/DATES: 8 weeks (6/6-7/29). EST. COST: none. SCHOLARSHIPS: Federal minimum wage. APPLICATION DEADLINE: 4/1. CONTACT: Office of Special Programs, University of Texas Medical Branch, Galveston, TX 77550-2764 (409/761-3256).

COMMUTER/RESIDENTIAL

SOUTHERN METHODIST UNIVERSITY. PROGRAM FOR ACADEMICALLY TALENTED AND GIFTED STUDENTS (SMU/TAG). COURSES: mathematics; physics; computer science. ENROLLMENT: 70. GRADE(S): 8/9/10. QUALIFIERS: school records and test scores. DURATION/DATES: 3 weeks (7/17-8/5). EST. COST: $600 (commuter); $1,050 (residential). SCHOLARSHIPS: limited, based on need. APPLICATION DEADLINE: 5/1. CONTACT: Director, SMU/TAG Program, Southern Methodist University, SMU Box 382, Dallas, TX 75275 (214/369-9556).

SOUTHERN METHODIST UNIVERSITY. THE COLLEGE EXPERIENCE. COURSES: mathematics; engineering. ENROLLMENT: 80+. GRADE(S): 10/11/12. QUALIFIERS: juniors and seniors must be in upper 50% of class; sophomores enrolled in gifted program and in upper 10% of class; recommendations; PSAT scores. DURATION/DATES: two 5-week sessions (6/9-7/9; 7/12-8/12). EST. COST: $585/3-credit course; $282 (room); $300 (meals). SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/15 (first term); 6/15 (second term). CONTACT: The College Experience, Southern Methodist University, SMU Box 253, Dallas, TX 75275 (214/987-0488).

TARLETON STATE UNIVERSITY. ADVANCED CHEMICAL PROGRAM FOR TALENTED HIGH SCHOOL STUDENTS. RESEARCH/COURSES: chemistry; biochemistry. ENROLLMENT: 5-10. GRADE(S): 11. QUALIFIERS: SAT/PSAT 1000; recommendations from chemistry teacher and principal or counselor; and interest in chemical research. DURATION/DATES: two 5-week sessions (6/1-7/8; 7/8-8/17). EST. COST: per session -- $200 (commuter); $650 (resident); $1,200 (out-of-state residential). SCHOLARSHIPS: yes (full in-state; partial out-of-state). APPLICATION DEADLINE: 3/31. CONTACT: Dr. Jerry A. Darsey, Department of Physical Sciences, Tarleton State University, Stephenville, TX 76402 (817/968-9143).

TEXAS A&I UNIVERSITY. SUMMER HIGH SCHOOL RESEARCH PROGRAM. RESEARCH/COURSES: biology. ENROLLMENT: 10. GRADE(S): 12. QUALIFIERS: GPA; letters of reference. DURATION/DATES: 8 weeks (June-July). EST. COST: unknown. SCHOLARSHIPS: salary stipends. APPLICATION DEADLINE: 4/15. CONTACT: Dr. John C. Peres, Biology Department, Texas A&I University, Kingsville, TX 78363 (512/595-3796).

UNIVERSITY OF DALLAS. JOHN B. O'HARA CHEMICAL SCIENCES INSTITUTE (PART A). COURSES: chemistry. ENROLLMENT: 20-25. GRADE(S): precollege freshmen. QUALIFIERS: SAT/ACT scores; rank in class; letters of reference; admission to freshman standing at University of Dallas. DURATION/DATES: 9 weeks (6/16-8/12). EST. COST: $1,500 (tuition, room and board). SCHOLARSHIPS: yes, full and partial scholarships available. APPLICATION DEADLINE: open until 5/1. CONTACT: Jack C. Towne, University of Dallas, 1845 East Northgate, Irving, TX 75062 (214/721-5377).

UNIVERSITY OF TEXAS AT EL PASO. SUMMER ENGINEERING INSTITUTE. COURSES: introduction to engineering and engineering fields. ENROLLMENT: 130. GRADE(S): 9/10/11. QUALIFIERS: academic performance; extracurricular (academic) activities. DURATION/DATES: three 2-week programs (6/6-17; 6/20-7/1; 7/11-22). EST. COST: travel to and from El Paso, Texas. SCHOLARSHIPS: to cover room and board only. APPLICATION DEADLINE: 5/1. CONTACT: Stephen W. Stafford, College of Engineering, University of Texas at El Paso, El Paso, TX 79968 (915/747-5469).

UNIVERSITY OF TEXAS AT SAN ANTONIO. HONORS PROGRAM FOR YOUNG SCHOLARS. COURSES: mathematics; geology; psychology; art; marketing; criminal justice; architecture; English; etc.. ENROLLMENT: 140. GRADE(S): 12. QUALIFIERS: standardized test scores; H.S. grades; statement of purpose; recommendations (some personal interviews). DURATION/DATES: academic year and 5 weeks during summer (5/30-7/1). EST. COST: $118. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 3/4. CONTACT: Office of the Vice President for Academic Affairs, The University of Texas at San Antonio, San Antonio, TX 78285 (512/691-4105).

RESIDENTIAL

NORTH TEXAS STATE UNIVERSITY. TEXAS ACADEMY OF MATHEMATICS AND SCIENCE. COURSES: biology; physics; chemistry; precalculus; calculus. ENROLLMENT: 100 initially ; 400 maximum. GRADE(S): 11. QUALIFIERS: SAT scores (minimum 550 math; 1000 math and verbal); jr. high and H.S. grades; teacher recommendations; student essay; mathematics testing. DURATION/DATES: academic year. EST. COST: no tuition; $3,000 room, board and

books. SCHOLARSHIPS: need basis. APPLICATION DEADLINE: 2/15. CONTACT: Rogers Redding, Texas Academy of Mathematics and Science, North Texas State University, P.O. Box 5307, Denton, TX 76203 (817/565-3606).

TEXAS A&M UNIVERSITY AT GALVESTON. ADVANCED SEA CAMP. RESEARCH/COURSES: marine biology; oceanography. ENROLLMENT: 100. GRADE(S): 9-12. QUALIFIERS: previous experience involving marine environment. DURATION/DATES: 1-week summer camps (June-August). EST. COST: $450-500. SCHOLARSHIPS: yes. APPLICATION DEADLINE: none. CONTACT: Dr. Sammy Ray, Marine Biology Department, Texas A&M University at Galveston, P.O. Box 1675, Galveston, TX 77553 (409/740-4525).

UNIVERSITY OF HOUSTON. MESET (MINORITY ENRICHMENT SEMINAR IN ENGINEERING TRAINING). COURSES: chemistry; mathematics; engineering orientation; design; computer applications; communications. ENROLLMENT: 30. GRADE(S): 12. QUALIFIERS: interest in engineering; GPA; PSAT/SAT; and relevance of courses taken. DURATION/DATES: 3 weeks (6/12-7/1). EST. COST: transportation; weekend meals; incidentals. SCHOLARSHIPS: full scholarship for all participants. APPLICATION DEADLINE: unknown. CONTACT: Dr. G. F. Paskuss, Program for Minority Engineering Students (PROMES), University of Houston, Cullen College of Engineering, 4800 Calhoun Road, Room N69, Building D, Houston, TX 77004 (713/749-1139).

UTAH

COMMUTER

UTAH STATE UNIVERSITY. CHEMISTRY PRINCIPLES LABORATORY. COURSES: chemistry. ENROLLMENT: 25. GRADE(S): 11/12. QUALIFIERS: honors chemistry or 2nd year chemistry in H.S. concurrent. DURATION/DATES: academic year (winter quarter). EST. COST: $100. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 1st day of class. CONTACT: J. G. Morse, Department of Chemistry and Biochemistry, Utah State University, Logan, UT 84322 (801/750-1619).

WEBER STATE COLLEGE. SCIENCE SEMINAR FOR SUPERIOR STUDENTS. RESEARCH/COURSES: physics; chemistry; geology; biology; microbiology; botany; zoology; career orientation. ENROLLMENT: 35. GRADE(S): 10/11/12. QUALIFIERS: recommendation of H.S. science teacher based on academic performance; attend area H.S.. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 11/13. CONTACT: Dr. Michael Cousens, Interim Director, Center for Science Education, Weber State College, Ogden, UT 84403-2509 (801/626-6160).

COMMUTER/RESIDENTIAL

BRIGHAM YOUNG UNIVERSITY. ADVANCED HIGH SCHOOL STUDIES PROGRAM. COURSES: computer science. ENROLLMENT: 200. GRADE(S): 11. QUALIFIERS: top 10% of class; grades; PSAT/ACT scores; completion of 2nd year algebra. DURATION/DATES: 2 weeks (8/1-12). EST. COST: $10 registration fee plus optional dormitory costs ($250). SCHOLARSHIPS: tuition fee program for all participants. APPLICATION DEADLINE: 5/1. CONTACT: Computer Science Department, 230 TMCB, Brigham Young University, Provo, UT 84602 (801/378-3027).

BRIGHAM YOUNG UNIVERSITY. BYU/UNITE PRE-ENGINEERING PROGRAM FOR RISING HIGH SCHOOL JUNIORS (MINORITIES). COURSES: basic engineering plus computer and communication skills. ENROLLMENT: 40. GRADE(S): 11. QUALIFIERS: H.S. GPA above 3.0; some math and science background; interest in engineering; member ethnic minority. DURATION/DATES: 4 weeks (July). EST. COST: travel costs to and from Provo, Utah. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/1. CONTACT: Dr. S. Olani Durrant, Associate Dean, College of Engineering and Technology, Brigham Young University, 270 Clyde Building, Provo, UT 84602 (801/378-4326).

WESTMINSTER COLLEGE OF SALT LAKE CITY. CONCURRENT ENROLLMENT. COURSES: biology; chemistry; physical sciences; physics; mathematics; computer science. ENROLLMENT: 10. GRADE(S): 12. QUALIFIERS: 2.5+ GPA; permission of H.S. principal and parents; 3 years mathematics minimum. DURATION/DATES: academic year and summer. EST. COST: $86/credit hour. SCHOLARSHIPS: none. APPLICATION DEADLINE: 2 weeks prior to registration. CONTACT: Betsy McKean, Assistant, Director of Admissions, Westminster College of Salt Lake City, Salt Lake City, UT 84105 (801/484-7651).

VERMONT

COMMUTER

CASTLETON STATE COLLEGE. SPECIAL STUDENT PROGRAM. COURSES: biology; chemistry; geology; mathematics. ENROLLMENT: unknown. GRADE(S): 11/12. QUALIFIERS: GPA; 3 years mathematics minimum. DURATION/DATES: academic year. EST. COST: $300/course. SCHOLARSHIPS: none. APPLICATION DEADLINE: 8/1 (fall); 12/15 (spring). CONTACT: Gary Fallis, Admissions, Castleton State College, Castleton, VT 05735 (802/468-5611).

MIDDLEBURY COLLEGE. COURSES: biology; chemistry; physics; geology; mathematics; computer sciences; psychology; northern studies. ENROLLMENT: 8-10. GRADE(S): 11/12. QUALIFIERS: commuting students who have exhausted courses in subject area in their own H.S. and are recommended by guidance staff and teachers. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 9/1. CONTACT: Dean of the College, Middlebury College, Middlebury, VT 05753 (802/388-3711).

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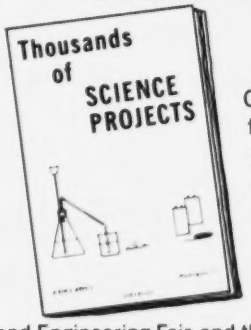

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RESIDENTIAL

GOVERNOR'S INSTITUTE OF VERMONT WITH UNIVERSITY OF VERMONT. THE GOVERNOR'S INSTITUTE ON SCIENCE. COURSES: environmental; aquatic; forest; computer. ENROLLMENT: 60. GRADE(S): 9/10/11. QUALIFIERS: high level of motivation; ability; lack of specialized opportunities. DURATION/DATES: 2 weeks (tentatively 6/15-7/2). EST. COST: $250. SCHOLARSHIPS: available to all needy. APPLICATION DEADLINE: 3/1. CONTACT: Mrs. Christine Graham, Director, Governor's Institute on Science, Box 199, Shaftsbury, VT 05262 (802/447-0256).

MIDDLEBURY COLLEGE. SCIENS I (SCIENCE CORE INSTRUCTION AND EXPERIENCE NETWORK SYSTEM-PHASE I). COURSES: biology; geology; chemistry; physics; mathematics. ENROLLMENT: 20. GRADE(S): 12. QUALIFIERS: motivated minority students who have completed at least a year of H.S. science. DURATION/DATES: 2 weeks (8/9-21). EST. COST: none, expenses are covered and a nominal stipend is paid. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: April. CONTACT: R. Landgren, SCIENS Coordinator, Middlebury College, Middlebury, VT 05753 (802/388-3711).

MIDDLEBURY COLLEGE. SCIENS II (SCIENCE CORE INSTRUCTION AND EXPERIENCE NETWORK SYSTEM-PHASE II). RESEARCH: biology; chemistry; physics; geology; mathematics; physiological psychology; northern studies. ENROLLMENT: 4-6. GRADE(S): precollege freshmen. QUALIFIERS: motivated minority students interested in science. DURATION/DATES: 10 weeks (6/15-8/20). EST. COST: none, $1,500 stipend and room and board covered. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: April. CONTACT: R. Landgren, SCIENS Coordinator, Middlebury College, Middlebury, VT 05753 (802/388-3711).

UNIVERSITY OF VERMONT. RESEARCH APPRENTICE PROGRAM (RAP). RESEARCH: Medical College; School of Allied Health; College of Arts and Science; College of Agriculture. ENROLLMENT: 15. GRADE(S): 12. QUALIFIERS: recommendations; essay; grades; interest area; courses; related experiences. DURATION/DATES: 7 weeks (July-August). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: unknown. CONTACT: Dr. N. R. Emmanuel, Nicholson Building, Division of Student Affairs, 41 South Prospect, University of Vermont, Burlington, VT 05401 (802/656-3380).

VIRGINIA

COMMUTER

CHRISTOPHER NEWPORT COLLEGE. HIGH SCHOOL ENRICHMENT PROGRAM. COURSES: biology; chemistry; physics; mathematics, computer science. ENROLLMENT: 45. GRADE(S): 10/11/12. QUALIFIERS: class rank; grades; test scores; recommendations; and interviews. DURATION/DATES: academic year. EST. COST: $200/course. SCHOLARSHIPS: none. APPLICATION DEADLINE: 8/15 (fall); 12/15 (spring). CONTACT: Dean Keith F. McLoughland, Christopher Newport College, 50 Shoe Lane, Newport News, VA 23606 (804/599-7015).

COLLEGE OF WILLIAM AND MARY. SIGMA XI SUMMER RESEARCH INTERNSHIPS PROGRAM. RESEARCH: physics; chemistry; biology; psychology; geology; mathematics; computer science. ENROLLMENT: 10-16. GRADE(S): 12. QUALIFIERS: must be area resident; interest; recommendation. DURATION/DATES: 6 to 10 weeks during summer. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 5/1. CONTACT: Dr. Herbert Friedman, Department of Psychology, College of William and Mary, Williamsburg, VA 23185 (804/253-4255).

GEORGE MASON UNIVERSITY. CONCURRENT ENROLLMENT. COURSES: all subject areas. ENROLLMENT: 20. GRADE(S): 12. QUALIFIERS: 3.0+ GPA; 1100+ SAT; good academic background; permission of H.S., GMU, and parents to take courses at GMU and H.S. simultaneously. DURATION/DATES: academic year. EST. COST: $228/course (in-state). SCHOLARSHIPS: some academic scholarships. APPLICATION DEADLINE: unknown. CONTACT: Patricia Riordan, Director of Admissions, Admissions Office, George Mason University, 4400 University Drive, Fairfax, VA 22030 (703/323-2107).

GEORGE WASHINGTON UNIVERSITY. SCIENCE AND ENGINEERING APPRENTICE PROGRAM (SEAP). See complete listing in District of Columbia section.

JAMES MADISON UNIVERSITY. HIGH SCHOOL SPECIAL STUDENTS. COURSES: biology; chemistry; geology; mathematics; computer science; physics; liberal arts. ENROLLMENT: varies. GRADE(S): 12. QUALIFIERS: recommendation from H.S.; transcript; and approval of department. DURATION/DATES: academic year and 8 weeks during summer (6/13-8/5). EST. COST: $175. SCHOLARSHIPS: no. APPLICATION DEADLINE: one month in advance. CONTACT: Francis E. Turner, Continuing Education, James Madison University, Harrisonburg, VA 22807 (703/568-7088).

COMMUTER/RESIDENTIAL

GEORGE MASON UNIVERSITY. EARLY ADMISSIONS. COURSES: all subject areas. ENROLLMENT: 20. GRADE(S): 12. QUALIFIERS: 3.0+ GPA; 1100+ SAT; good academic background; permission of H.S., GMU, and parents to finish senior year at GMU. DURATION/DATES: academic year. EST. COST: $6,300/year (in-state room & board). SCHOLARSHIPS: some academic scholarships. APPLICATION DEADLINE: unknown. CONTACT: Patricia Riordan, Director of Admissions, Admissions Office, George Mason University, 4400 University Drive, Fairfax, VA 22030 (703/323-2107).

OLD DOMINION UNIVERSITY. SENIOR SCHOLARS. COURSES: biology; chemistry; mathematics; geology; oceanography; physics; computer science; psychology. ENROLLMENT: 5-15. GRADE(S): 12. QUALIFIERS: top 10% of class; counselor recommendation; A average; SAT 1000 minimum or 100 PSAT minimum; must attend local (Hampton Roads) H.S.. DURATION/DATES: academic year and summer. EST. COST: $90/credit hour. SCHOLARSHIPS: minimal. APPLICATION DEADLINE: 5/1 (fall); 11/1 (spring). CONTACT: Michael E. Malone, Old Dominion University, Hampton Boulevard, Norfolk, VA 23529-0050 (804/440-3637).

RESIDENTIAL

CENTER FOR EXCELLENCE IN EDUCATION. RESEARCH SCIENCE INSTITUTE. RESEARCH/COURSES: mathematics; physics; chemistry; biology. ENROLLMENT: 50-70. GRADE(S): 12 (or completed comparable to 3 years of H.S.). QUALIFIERS: H.S. academic record; recommendations; personal essays; minimum PSAT of 130. DURATION/DATES: 5 to 6 weeks (6/19-7/30). EST. COST: none. SCHOLARSHIPS: n/a, free to those selected. APPLICATION DEADLINE: unknown. CONTACT: Medi K. Hoover, Center for Excellence in Education, 7710 Old Springhouse Road, McLean, VA 22102 (703/448-9062).

GEORGE MASON UNIVERSITY. EXCEL PROGRAM. COURSES: science; math; humanities; social science; engineering; computer science. ENROLLMENT: 31. GRADE(S): 12. QUALIFIERS: academically oriented; self-disciplined; 3.0+ GPA. DURATION/DATES: 5 weeks (6/29-7/29). EST. COST: $660. SCHOLARSHIPS: some for academically excellent students. APPLICATION DEADLINE: 6/1. CONTACT: Donna Bafundo, Director of Summer Session, George Mason University, 4400 University Drive, Fairfax, VA 22030 (703/323-2300).

LYNCHBURG COLLEGE. HOPWOOD SUMMER SCHOLARSHIP PROGRAM. COURSES: physics; computers; biology; chemistry; psychology. ENROLLMENT: 120. GRADE(S): 12.

QUALIFIERS: high PSAT; top 20% of class; recommendations. DURATION/DATES: 1 week (8/25-31). EST. COST: $125. SCHOLARSHIPS: limited fee waiver for students with real need. APPLICATION DEADLINE: 6/1. CONTACT: Dr. Julius Sigler, Associate Dean, Lynchburg College, Lynchburg, VA 24501 (804/522-8465).

WASHINGTON AND LEE UNIVERSITY. SUMMER SCHOLARS. COURSES: anatomy; pre-med (biology; chemistry). ENROLLMENT: 140 in entire program (25 in pre-med). GRADE(S): 12. QUALIFIERS: PSAT scores; school record; teacher recommendations. DURATION/DATES: 4 weeks (7/3-29). EST. COST: $1,350. SCHOLARSHIPS: 15% of 140 received aid in 1987. APPLICATION DEADLINE: 4/18. CONTACT: Robert Fure, Office of Summer Programs, Washington and Lee University, Lexington, VA 24450 (703/463-8723).

WASHINGTON

COMMUTER

GONZAGA UNIVERSITY. DUAL ENROLLMENT. COURSES: all courses without pre-requisites: physics; biology; chemistry; mathematics; computer science. ENROLLMENT: 30. GRADE(S): 11/12. QUALIFIERS: 3.0 GPA and permission from school; official transcript showing demonstrated ability in science. DURATION/DATES: academic year. EST. COST: $85/course. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 8/15. CONTACT: Kirk Koenig, Associate Dean of Admissions, Gonzaga University, Spokane, WA 99258 (509/328-4220).

UNIVERSITY OF WASHINGTON. ADVANCED STUDY PROGRAM. COURSES: astronomy; atmospheric sciences; biology; botany; chemistry; computer science; fisheries; geology; calculus; microbiology; statistics; zoology. ENROLLMENT: no limit (53 in 1987). GRADE(S): 10/11/12. QUALIFIERS: minimum GPA 3.5; recommendation from counselor or principal. DURATION/DATES: 9 week maximum (6/20-8/19). EST. COST: $58/credit hour; $577 maximum. SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/1 to pre-register by mail. CONTACT: Bruce Bennett, University of Washington Summer Quarter, GH-21, Seattle, WA 98195 (206/543-2300, ext. 434).

UNIVERSITY OF WASHINGTON. NON-MATRICULATED STUDENT PROGRAM. COURSES: astronomy; atmospheric sciences; biology; botany; chemistry; computer science; geology; calculus; microbiology; statistics; physics; zoology; etc.. ENROLLMENT: 24. GRADE(S): 10/11/12. QUALIFIERS: minimum GPA 3.5; recommendation from counselor or principal. DURATION/DATES: academic year. EST. COST: $58/credit hour. SCHOLARSHIPS: none. APPLICATION DEADLINE: 9/25 (fall); 12/28 (winter); 3/31 (spring). CONTACT: Bruce Bennett, University of Washington Extension, GH-21, Seattle, WA 98195 (206/543-2300, ext. 434).

COMMUTER/RESIDENTIAL

WESTERN WASHINGTON UNIVERSITY. ADVENTURES IN SCIENCE AND ARTS. COURSES: marine biology; geology; robotics; technology; ecology; computers; psychology. ENROLLMENT: 300. GRADE(S): 3-12. QUALIFIERS: gifted identified; demonstrated ability; aptitude, interest or talent; highly motivated/capable learner; underachiever with above average test scores; students submit essay describing interest and nomination letter from knowledgeable adult addressing student's abilities and interests. DURATION/DATES: 4 weeks (7/11-29; 6/27-7/1). EST. COST: $150 tuition per week and $150 room and board per week. SCHOLARSHIPS: none via program. APPLICATION DEADLINE: 5/31. CONTACT: Joe Vincent, Adventures in Science and Arts, Western Washington University, Old Main 400, Bellingham, WA 98225 (206/676-3320).

RESIDENTIAL

PACIFIC LUTHERAN UNIVERSITY. SUMMER SCHOLARS PROGRAM. RESEARCH/COURSES: biology; mathematics; chemistry; physics. ENROLLMENT: 50. GRADE(S): 10/11. QUALIFIERS: GPA; SAT or equivalent; recommendations; essay. DURATION/DATES: 3 weeks (tentatively 7/11-29). EST. COST: $690. SCHOLARSHIPS: yes, need based. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Judith W. Carr, Associate Dean of Special Academic Programs, Pacific Lutheran University, Tacoma, WA 98447 (206/535-7130).

WEST VIRGINIA

COMMUTER

WEST VIRGINIA SCHOOL OF OSTEOPATHIC MEDICINE. SCIENCE ENRICHMENT PROGRAM. RESEARCH/COURSES: biochemistry. ENROLLMENT: individual to class-size. GRADE(S): 7-12. QUALIFIERS: academic performance; interest; teacher recommendation. DURATION/DATES: 12 hours over 6 weeks during academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: as early as possible each semester. CONTACT: John D. Burnham and Judith O. Westerik, West Virginia School of Osteopathic Medicine, 400 North Lee Street, Lewisburg, WV 24901 (304/645-6270).

WHEELING JESUIT COLLEGE. SECONDARY STUDENT SCIENCE RESEARCH PROGRAM. RESEARCH: chemistry; biology; physics including engineering. ENROLLMENT: 4. GRADE(S): 10. QUALIFIERS: unknown. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 9/1. CONTACT: Y. Giza, Ph.D., Wheeling Jesuit College, 316 Washington Avenue, Wheeling, WV 26003 (304/243-2261).

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RESIDENTIAL

WEST VIRGINIA WESLEYAN COLLEGE. WESLEYAN SUMMER GIFTED PROGRAM. COURSES: physics (mechanics, modern, electronics); mathematics (algebra, trigonometry, precalculus, calculus); computer science (BASIC, FORTRAN). ENROLLMENT: 55. GRADE(S): 7/8/9. QUALIFIERS: in school gifted program or scores of 97 percentile or above on national standardized exams. DURATION/DATES: 2-week sessions (7/3-16-beginning and 7/17-30-advanced). EST. COST: $520. SCHOLARSHIPS: none. APPLICATION DEADLINE: 5/10. CONTACT: Joseph E. Wiest, Ph.D. and Jeanie A. Wiest, M.D., West Virginia Wesleyan College, Box 89, Buckhannon, WV 26201 (304/473-8000, ext. 8062).

WISCONSIN

COMMUTER

ASSOCIATION FOR HIGH-POTENTIAL CHILDREN, INC., AND THE UNIVERSITY OF WISCONSIN, EAU CLAIRE. MATH TALENT DEVELOPMENT PROGRAM (MTDP). COURSES: accelerated mathematics to take a junior H.S. student through H.S. math in two years. ENROLLMENT: 15. GRADE(S): 6-9. QUALIFIERS: SAT/M 500+ plus SAT/V to equal at least 900; and personal interview. DURATION/DATES: academic year. EST. COST: $100/semester ($400 for total course). SCHOLARSHIPS: yes. APPLICATION DEADLINE: June. CONTACT: Dr. Juanita Sorenson, Brewer 13, University of Wisconsin, Eau Claire, WI 54702 (715/836-5843).

BELOIT COLLEGE. PORTER SCHOLARS HIGH SCHOOL PROGRAM. COURSES: physics; chemistry; biology; mathematics. ENROLLMENT: 70. GRADE(S): 12. QUALIFIERS: top 10% of class; recommendations; and essay. DURATION/DATES: academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 4/1. CONTACT: Dr. Robert W. Hodge, History Department, Beloit College, Beloit, WI 53511 (608/365-3391, ext. 334).

LAWRENCE UNIVERSITY. ACADEMY PROGRAM. COURSES: any. ENROLLMENT: 20. GRADE(S): 12. QUALIFIERS: must have completed all courses available at the H.S. level in the subject area student intends to pursue; must be in college-prep program and curriculum with a strong GPA and include select criteria of PSAT or SAT. DURATION/DATES: academic year. EST. COST: $40/course. SCHOLARSHIPS: none. APPLICATION DEADLINE: 8/15. CONTACT: Academy Program Director, Lawrence University, P.O. Box 599, Appleton, WI 54912 (414/735-6500).

MARQUETTE UNIVERSITY. YOUNG NURSING SCHOLARS PROGRAM. COURSES: introductory college nursing. ENROLLMENT: 10-25. GRADE(S): 11/12. QUALIFIERS: H.S. grades; class rank; recommendations of principal or guidance counselor. DURATION/DATES: spring semester of academic year (program offered in both Milwaukee and Chicago areas). EST. COST: tuition covered by scholarship; $40 for book. SCHOLARSHIPS: all students selected receive tuition scholarship. APPLICATION DEADLINE: 1/15. CONTACT: Dr. Rosalie Klein, Dean, College of Nursing, Marquette University, Milwaukee, WI 53233 (414/224-3812).

MARQUETTE UNIVERSITY. YOUNG SCHOLARS PROGRAM. COURSES: engineering: computer applications; computer graphics; materials science; manufacturing and industrial engineering. ENROLLMENT: 25/course. GRADE(S): 11. QUALIFIERS: B average or better; interest in engineering. DURATION/DATES: academic year (spring semester only). EST. COST: $30 for books. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 12/87. CONTACT: Susan J. Michaelson, College of Engineering, Marquette University, 1515 W. Wisconsin Avenue, Milwaukee, WI 53233 (414/224-7134).

MARQUETTE UNIVERSITY. YOUNG SCHOLARS PROGRAM IN MEDICAL TECHNOLOGY. COURSE: medical laboratory science based on biology and chemistry. ENROLLMENT: 26. GRADE(S): 11/12. QUALIFIERS: upper 25% rank in class; grade of B or better in biology. DURATION/DATES: 3 consecutive Saturdays during both fall and spring semesters. EST. COST: $20. SCHOLARSHIPS: none. APPLICATION DEADLINE: variable. CONTACT: Ms. Alice M. Semrad, Medical Technology, Marquette University, Milwaukee, WI 53233 (414/224-7566).

MILWAUKEE SCHOOL OF ENGINEERING. SUMMER SPRINT. COURSES: algebra; trigonometry; advanced algebra; physics; chemistry; English composition; computer science. ENROLLMENT: 30. GRADE(S): 11/12. QUALIFIERS: college bound. DURATION/DATES: 6 weeks during summer. EST. COST: two courses = $450. SCHOLARSHIPS: none. APPLICATION DEADLINE: 6/1. CONTACT: Owen Smith, Milwaukee School of Engineering, P.O. Box 644, Milwaukee, WI 53202 (414/277-7200 or 1/800-332-MSOE).

RIPON COLLEGE. ADVANCE COLLEGE EXPERIENCE. COURSES: aviation; chemistry; computer science; recreational mathematics; biology. ENROLLMENT: 100+. GRADE(S): 4-12. QUALIFIERS: above-average achievement and interest; application supported by two teacher recommendations. DURATION/DATES: 2 weeks (7/18-29). EST. COST: $60/course or $100/two courses. SCHOLARSHIPS: yes, by application. APPLICATION DEADLINE: 5/16 for scholarships; 7/1 for registrations. CONTACT: Nancy Livingston, Advance College Experience, c/o Ripon College, P.O. Box 248, 300 Seward Street, Ripon, WI 54971 (414/748-8119 or 8109).

UNIVERSITY OF WISCONSIN, EAU CLAIRE. SUMMER INSTITUTE FOR HIGH-POTENTIAL STUDENTS. COURSES: computers; "hands on" mathematics; chemistry; aerospace rocketry; dinosaurs; engineering. ENROLLMENT: 500. GRADE(S): K-12. QUALIFIERS: interest and motivation in course selected. DURATION/DATES: three 2-week sessions (6/13-7/21). EST. COST: $45/class. SCHOLARSHIPS: yes, based on need. APPLICATION DEADLINE: 3/21. CONTACT: Dr. Juanita Sorenson, Brewer 13, University of Wisconsin, Eau Claire, WI 54702 (715/836-5843).

UNIVERSITY OF WISCONSIN, MILWAUKEE. GATEWAY TO ENGINEERING, SCIENCE AND TECHNOLOGY. RESEARCH/COURSES: engineering subjects. ENROLLMENT: 80. GRADE(S): 9-12. QUALIFIERS: academic potential and demonstrated interest. DURATION/DATES: academic year and 6-week summer session (6/20-7/29). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 3/31. CONTACT: Rose Daitsman, University of Wisconsin-Milwaukee, P.O. Box 784, Milwaukee, WI 53201 (414/229-5356).

UNIVERSITY OF WISCONSIN, MILWAUKEE. HIGH SCHOOL MINORITY RESEARCH APPRENTICESHIP PROGRAM. RESEARCH: molecular genetics; biology; chemistry; sociology; health; engineering. ENROLLMENT: 11. GRADE(S): 10/11. QUALIFIERS: academic record; interest; recommendation of science teacher. DURATION/DATES: 8 weeks (6/20-8/12). EST. COST: none. SCHOLARSHIPS: $1,200 student stipend. APPLICATION DEADLINE: 4/1. CONTACT: Dr. Ruth Williams, University of Wisconsin-Milwaukee, P.O. Box 413, Milwaukee, WI 53201 (414/229-5666).

UNIVERSITY OF WISCONSIN, MILWAUKEE. PRECOLLEGE CENTER. COURSES: physics; chemistry; biology; mathematics; computer science. ENROLLMENT: 300. GRADE(S): 9-12. QUALIFIERS: academic potential and demonstrated interest. DURATION/DATES: academic year and 6-week summer session (6/27-8/5). EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: 3/1. CONTACT: Carl Corbett, University of Wisconsin-Milwaukee, P.O. Box 413, Milwaukee, WI 53201 (414/229-5834).

COMMUTER/RESIDENTIAL

UNIVERSITY OF WISCONSIN, EAU CLAIRE. SCIENCE SUMMER INSTITUTE. COURSES: astronomy; aviation science; medical biology; action electronics; physics; chemistry; veterinary medicine; experimental psychology; meteorology; computer programming. ENROLLMENT: 250. GRADE(S): 6-11. QUALIFIERS: recommendations by 2 teachers; handle abstract concepts well; work 2 or more years above grade level; score 90th percentile or above in mathematics and science on standardized tests. DURATION/DATES: 2 weeks (7/11-22). EST. COST: $425 (residential); $200 (commuter). SCHOLARSHIPS: yes, based on need. APPLICATION DEADLINE: 3/1. CONTACT: Dr. Juanita Sorenson, Brewer 13, University of Wisconsin, Eau Claire, WI 54702 (715/836-5843).

UNIVERSITY OF WISCONSIN, SUPERIOR. SCIENCE CAREER EXPLORATION. COURSES: cafeteria chemistry; instrumentation chemistry; general chemistry; organic chemistry; microbiology; human biology. ENROLLMENT: 20/course. GRADE(S): 7-12. QUALIFIERS: upper 2 quartiles in standing. DURATION/DATES: four 1-week sessions (6/20-7/22). EST. COST: $198/week (includes room and board). SCHOLARSHIPS: yes. APPLICATION DEADLINE: unknown. CONTACT: Dr. A. B. Dickas, Univ. of Wisconsin, 203 Administration, Superior, WI 54880 (715/394-8311).

UNIVERSITY OF WISCONSIN, SUPERIOR. YOUTHSUMMER PRECOLLEGE FOR TEENAGERS. COURSES: biology; chemistry; mathematics; computers; economics; astronomy; medical technology; aerospace; ecology; psychology. ENROLLMENT: 20/class. GRADE(S): 7-12. QUALIFIERS: career interests in science fields. DURATION/DATES: four 1-week sessions (6/20-7/22). EST. COST: $198/week (includes room and board). SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/31. CONTACT: Dr. A. B. Dickas, University of Wisconsin, 203 Administration, Superior, WI 54880 (715/394-8311).

RESIDENTIAL

LAWRENCE UNIVERSITY. SUMMER SCIENCE ENRICHMENT PROGRAM: BIOLOGY. RESEARCH/COURSES: biology. ENROLLMENT: 15 maximum. GRADE(S): 11/12. QUALIFIERS: academically talented with strong interest in biology; recommendation by H.S. science teacher; essay expressing interest in biology; transcript. DURATION/DATES: 2 weeks (6/19-7/1). EST. COST: $585. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/15. CONTACT: Christa C. Decker, Lawrence University, P.O. Box 599, Appleton, WI 54912 (414/735-6575).

LAWRENCE UNIVERSITY. SUMMER SCIENCE ENRICHMENT PROGRAM: CHEMISTRY. RESEARCH/COURSES: chemistry. ENROLLMENT: 15 maximum. GRADE(S): 11/12. QUALIFIERS: academically talented with strong interest in chemistry; recommendation by H.S. science teacher; essay expressing interest in chemistry; transcript. DURATION/DATES: 2 weeks (6/19-7/1). EST. COST: $585. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/15. CONTACT: Christa C. Decker, Lawrence University, P.O. Box 599, Appleton, WI 54912 (414/735-6575).

LAWRENCE UNIVERSITY. SUMMER SCIENCE ENRICHMENT PROGRAM: GEOLOGY. RESEARCH/COURSES: geology. ENROLLMENT: 15 maximum. GRADE(S): 11/12. QUALIFIERS: academically talented with strong interest in geology; recommendation by H.S. science teacher; essay expressing interest in geology; transcript. DURATION/DATES: 2 weeks (6/19-7/1). EST. COST: $585. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/15. CONTACT: Christa C. Decker, Lawrence University, P.O. Box 599, Appleton, WI 54912 (414/735-6575).

LAWRENCE UNIVERSITY. SUMMER SCIENCE ENRICHMENT PROGRAM: MATHEMATICS/COMPUTER SCIENCE. RESEARCH/COURSES: mathematics with some computer science. ENROLLMENT: 15 maximum. GRADE(S): 11/12. QUALIFIERS: academically talented with strong interest in mathematics; recommendation by H.S. science teacher; essay expressing interest in mathematics; transcript. DURATION/DATES: 2 weeks (6/19-7/1). EST. COST: $585. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/15. CONTACT: Christa C. Decker, Lawrence University, P.O. Box 599, Appleton, WI 54912 (414/735-6575).

UNIVERSITY OF WISCONSIN, MADISON. ENGINEERING SUMMER PROGRAM FOR MINORITY HIGH SCHOOL STUDENTS. COURSES: precalculus; calculus; statics and strength of materials; chemistry; computer science; various engineering seminars; communication skills. ENROLLMENT: 40. GRADE(S): 10/11/12. QUALIFIERS: 10th/11th grades: must have completed algebra I and a science course; 12th grade: must have completed at least two mathematics courses (algebra and geometry) and two science courses. DURATION/DATES: 8 weeks during summer. EST. COST: $750. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/1. CONTACT: Alfred L. Hampton, College of Engineering, Room 23, General Engineering Building, University of Wisconsin, 1527 University Avenue, Madison, WI 53706 (608/262-7764).

UNIVERSITY OF WISCONSIN, STEVENS POINT. NATURAL RESOURCE WORKSHOPS FOR HIGH SCHOOL STUDENTS. RESEARCH/COURSES: wildlife; forestry; water resources; soil science. ENROLLMENT: 150. GRADE(S): 10/11/12. QUALIFIERS: recommendations; H.S. performance; targeted programs for females and minorities also offered. DURATION/DATES: three 1-week sessions in June. EST. COST: $175. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 5/1. CONTACT: Mary Duritsa, College of Natural Resources, University of Wisconsin, Stevens Point, WI 54481 (715/824-2428).

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NATIONAL PROGRAMS

COMMUTER/RESIDENTIAL

NATIONAL ACTION COUNCIL FOR MINORITIES IN ENGINEERING, INC. (NACME). PRECOLLEGE ENGINEERING PROGRAMS. COURSES: math, science, and English interventions which supplement the regular curriculum to insure that underrepresented minority students are prepared to pursue engineering and other technical college curriculums. ENROLLMENT: estimated at 90 precollege programs with more than 13,000 student participants. GRADE(S): 9-12. QUALIFIERS: Focus on Black, Hispanic, and American Indian who display some interest and potential for engineering studies at college level. Aim of program is to heighten interest, motivation and preparation of these students. DURATION/DATES: Programs are year round, as well as over shorter concentrated periods. EST. COST: none. SCHOLARSHIPS: NACME provides approximately $3 million annually in scholarship assistance to minority engineering students. APPLICATION DEADLINE: As determined by the individual colleges and universities. CONTACT: Mr. Richard F. Neblett, President, National Action Council for Minorities in Engineering, 3 West 35th Street, New York, NY 10001 (212/279-2626).

NATIONAL INSTITUTES OF HEALTH. MINORITY HIGH SCHOOL STUDENT RESEARCH APPRENTICE PROGRAM. RESEARCH: biomedical sciences. ENROLLMENT: estimated at 300 precollege programs with 1,000 student participants at various colleges and universities. GRADE(S): 9-12. QUALIFIERS: set by local institution offering program, but generally including aptitude, performance, letters of recommendation, and parental approval. DURATION/DATES: programs are generally 8 weeks during the summer, but may also occur during the academic year. EST. COST: none. SCHOLARSHIPS: n/a. APPLICATION DEADLINE: as determined by the individual colleges and universities. CONTACT: Marjorie Tingle, Biomedical Research Support Program, Division of Research Resources, National Institutes of Health, Building 31, Room 5B-23, 9000 Rockville Pike, Bethesda, MD 20892 (301/496-6743). Institutions may apply for grants to provide minority high school students with research experience in health-related studies by apprenticing them to investigators. Institutions awarded grants during fiscal year 1987 under the Biomedical Research Support Grant Program or the Minority Biomedical Research Program are eligible. Deadline for applications is December 1, 1987. Awards are made in April, 1988, and interested students should contact their local university or medical school to see if they are offering a program.

PROGRAMS OUTSIDE CONTINENTAL U.S.

PUERTO RICO

COMMUTER/RESIDENTIAL

HUMACAO UNIVERSITY COLLEGE. HUC SUMMER HIGH SCHOOL APPRENTICESHIP PROGRAM. RESEARCH: chemistry. ENROLLMENT: 4. GRADE(S): 12. QUALIFIERS: 3.0 GPA. DURATION/DATES: 10 weeks (6/1-8/15). EST. COST: unknown. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 4/15. CONTACT: Dr. Roberto Marreno, Humacao University College, Chemistry Department, College Station, Humacao, PR 00661 (809/852-2525).

UNIVERSITY OF PUERTO RICO, RIO PIEDRAS AND MAYAGUEZ CAMPUS; HUMACAO UNIVERSITY COLLEGE; AND CATHOLIC UNIVERSITY OF PUERTO RICO. RESOURCE CENTER FOR SCIENCE AND ENGINEERING MULTI-CAMPUS SUMMER CAMP. COURSES: chemistry; biology; physics; computer science; mathematics. ENROLLMENT: 80. GRADE(S): 10. QUALIFIERS: score on aptitude test; grades; recommendations. DURATION/DATES: 6 weeks (6/10-7/15). EST. COST: $300. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 2/29. CONTACT: Dr. Manuel Gomez, Resource Center for Science and Engineering, Facundo Bueso Building, Office 304, University of Puerto Rico, Rio Piedras Campus, Rio Piedras, PR 00931 (809/765-5170).

UNIVERSITY OF PUERTO RICO, RIO PIEDRAS CAMPUS AND INTERAMERICAN UNIVERSITY, SAN GERMAN CAMPUS. RESOURCE CENTER FOR SCIENCE AND ENGINEERING SUMMER RESEARCH APPRENTICESHIP PROGRAM. RESEARCH: biology; chemistry; physics; mathematics; earth science; marine biology. ENROLLMENT: 40. GRADE(S): 9-12. QUALIFIERS: participation in science fairs; grades; letters of recommendation; interview; essay. DURATION/DATES: 6 weeks (6/10-7/15). EST. COST: $300. SCHOLARSHIPS: yes. APPLICATION DEADLINE: 2/29. CONTACT: Dr. Manuel Gomez, Resource Center for Science and Engineering, Facundo Bueso Building, Office 304, University of Puerto Rico, Rio Piedras Campus, Rio Piedras, PR 00931 (809/765-5170).

INTERNATIONAL PROGRAMS

ISRAEL

RESIDENTIAL

WEIZMANN INSTITUTE OF SCIENCE, REHOVOT, ISRAEL. THE DR. BESSIE F. LAWRENCE INTERNATIONAL SUMMER SCIENCE INSTITUTE. RESEARCH/COURSES: biology; chemistry; physics; mathematics; computers. ENROLLMENT: 20 from U.S.; 40-50 from Europe, Canada, Latin America. GRADE(S): 11/12. QUALIFIERS: strong motivation; transcript; recommendations; interview. DURATION/DATES: 5 weeks (7/6-8/7). EST. COST: $1,900 without airfare. SCHOLARSHIPS: generous availability, no qualified student denied admission because of financial need. APPLICATION DEADLINE: 3/18. CONTACT: Mollie Eisman, American Committee for the Weizmann Institute of Science, 515 Park Avenue, New York, NY 10022 (212/752-1300).

SWEDEN

RESIDENTIAL

LUND UNIVERSITY AND KURSVERKSAMHETEN AT LUND UNIVERSITY. SUMMER SCIENCE SCHOOL. RESEARCH: science and engineering. ENROLLMENT: 16 (1-2 American students). GRADE(S): precollege freshmen; age 18. QUALIFIERS: recommendations by 2 teachers; grades; documented activities in science and research; personal and leadership qualities. DURATION/DATES: 6 weeks during summer. EST. COST: $2,000 U.S.. SCHOLARSHIPS: none. APPLICATION DEADLINE: March. CONTACT: Ms. Susanna Moller, Salveig Zall, Kursverksamheten, Skomakaregatan 8, 22350 Lund, SWEDEN.

International Science and Engineering Fair

The International Science and Engineering Fair, the "World's Series" of science fairs, is held annually with nearly 700 student contestants from affiliated fairs in the United States and a number of foreign nations. It culminates a selection process involving thousands of school and regional fairs, their student participants and their judges from science, medicine, engineering and education.

The ISEF is for students from the 9th, 10th, 11th, and 12th grades, two of whom have been selected to represent each of the more than 360 affiliated fairs. Costs for the entry fee, as well as those of transportation, meals and housing of the finalists and accompanying adults are borne by the affiliated fairs.

The Fair takes place in May each year, and will be in Knoxville, Tennessee, May 8-14, 1988, in Pittsburgh, Pennsylvania, May 7-13, 1989, and in Tulsa, Oklahoma, May 6-12, 1990.

The International Science and Engineering Fair is both a competition and an educational experience. The competition is for awards sponsored by two groups. The Science Service ISEF Grand Awards and the Special Awards.

Educational Experience

The International Science and Engineering Fair is also an educational experience for the participants in several different ways. It is one of the few competitions in the world where the judges (more than 700) outnumber the contestants. Finalists say that one of the most enjoyable (though sometimes scary) aspects is the opportunity to be interviewed by the scientists, engineers, doctors and mathematicians who are the judges. There is ample time to look at and study the exhibits of the other students and to exchange shop talk with them about their projects and the work that they have done.

A number of tours are also organized for the students and their adult escorts to universities, research centers, industry, and places of cultural and historical interest.

College Admissions

More and more college admissions officers are looking at achievements in extracurricular activities such as being chosen to attend the ISEF or winning in it. Their interest stems from growing research evidence which suggests that such achievements are indicators of abilities like originality, persistence, or initiative which are not shown by regular grades or tests, but which are important for success in a scientific career.

ISEF Grand Awards

Awards of First Place ($500), Second Place ($350), Third Place ($200), and Fourth Place ($100) are sponsored by Science Service in each of 13 categories. In addition, two finalists are chosen to attend the Nobel Prize Ceremonies in Stockholm. Schools of the First Award Winners receive plaques and a $250 equipment/book purchase grant. Winners are selected by more than 350 eminent scientists and engineers who serve as ISEF Judges.

Categories

- Behavioral and Social Sciences
- Biochemistry
- Botany
- Chemistry
- Computer Science
- Earth and Space Sciences
- Engineering
- Environmental Sciences
- Mathematics
- Medicine and Health
- Microbiology
- Physics
- Zoology

Special Awards Donors

Some 50 different scientific, engineering, and Federal organizations participate in the Special Awards Program, each sending its own panel of judges for the selection of its winners. This adds about 400 more judges so that the total number of judges exceeds the total number of Finalists.

The Special Awards include college scholarships, cash awards, expenses-paid trips to scientific and engineering installations or national conventions, oceanographic cruises, summer jobs, equipment, plaques, medals, books, magazine subscriptions, and certificates. Some organizations also give cash awards, trips, and plaques or certificates to the winners' teachers and plaques or certificates to their schools.

International Science and Engineering Fair
an Activity of
Science Service

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The National Association of Secondary School Principals has placed this program on the Advisory List of National Contests and Activities for 1987-88.